This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

WIDENER LIBRARY
HX HS8R 1

Digitized by Google

Sci 1635.9.5

Harvard College Library

FROM

Gratis

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Respects of J. Burnett

TRANSACTIONS

Sci 635.9.5

OF THE

ESSEX AGRICULTURAL SOCIETY,

IN MASSACHUSETTS,

FOR THE YEAR 1881,

WITH THE

FIFTY-NINTH ANNUAL ADDRESS,

BY

DR. JAMES R. NICHOLS,

OF HAVERHILL.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM:
OBSERVER STEAM PRINTING ESTABLISHMENT,
1881.

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

FOR THE YEAR 1881,

WITH THE

FIFTY-NINTH ANNUAL ADDRESS,

BY

DR. JAMES R. NICHOLS,

OF HAVERHILL.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.:
OBSERVER STEAM PRINTING ESTABLISHMENT,
1881.

Digitized by Google

Harvard College Library
FEB 20 1896
Sci 1635.9.5
2223-29/8
SEP 14 1915

Digitized by Google

What Science has Accomplished for Farmers.

AN ADDRESS

BY

DR. JAMES R. NICHOLS,

HAVERHILL, MASS.

Digitized by Google

Digitized by Google

ADDRESS.

INTRODUCTORY.

The occurrences of to-day mark an anniversary which to me is specially interesting. In 1855 the annual Fair of the Essex Society was held in this city, (then a town of six thousand inhabitants,) and I was appointed to deliver the address. It is therefore a quarter of a century since I had the honor of presenting to you my first address upon an agricultural topic. I say *to you;* but it is painfully evident that this remark has but a limited application. In looking over this assemblage of the farmers of Essex, the faces of many are missed who were prominent in the management of the Society twenty-five years ago. The organization remains, but many of those who met in 1855 in this audience room have been kindly taken into the bosom of mother Earth, the final resting place and home of us all. The harvests of grasses, and cereals, and tubers, which we have so industriously gathered for many years, have proved unequal and uncertain; but the harvest which the relentless hand of death reaps every day and every hour is certain and abundant, and no one can escape the scythe of the great mower who is noiselessly approaching, and who is very close to many of us. The sustained prosperity and success of this ancient and honorable society, presents a good illustration of the real insignificance

Digitized by Google

of individuals in holding up any useful and important enterprise. What appears to be the pillars or foundation stones of edifices drop out, but the buildings do not fall. Without disorder and without notice the old supports are replaced by even stronger and better material, and the good work of benevolence or instruction continues. However reverently and approvingly we gaze upon the past, we look to the future with unfaltering hope and confidence. A quarter of a century ago there was more than a suspicion lurking in the minds of the fathers of this Society, that science had aids to offer to practical husbandmen; and this explains perhaps, how it happened, that a laboratory worker, inexperienced in rural affairs was selected to address them at their annual Cattle Show and Fair. Chemistry, at that period, had opened some of the doors of its treasure house of knowledge, but the wide portals which have since swung broadly open, were only ajar, and the popular mind had longings for light and aid not fully satisfied. The labors of Leibig and Stockhardt had done much to prove the intimate connection subsisting between chemistry and husbandry, but facts were to a large extent wanting by which its practical benefits to farmers could be demonstrated in the barn and in the field.

THE TOPICS DISCUSSED.

In looking over the annual reports of the society, I find the address of 1855 to be devoted to a consideration of the relations of Science to Agriculture; to-day you are invited to a review of what science has accomplished for farmers and the farming interests. In discussing this topic, the moral and social benefits which science has conferred upon husbandmen will be first considered; secondly, the material aids which it

Digitized by Google

has afforded; and lastly, as incidental to the topic, some observations and suggestions regarding farmers' education will be presented.

THE FORMER SOCIAL CONDITION OF FARMERS.

Whilst it is manifest that science in its researches, practical appliances, and suggestions, has ameliorated the social and moral condition of all classes in all parts of the civilized globe, it seems to me that husbandmen of all others have reason to be most devoutly thankful to science for benefits received. This is due to the circumstances under which they are forced to live by their calling, and to their intimate contact with nature in the external world. They have from times far remote resided apart from cities, from the centres of dense population, and been compelled to spend their lives in rural retirement. Hence the mind has had much less support from social association and sympathy than has fallen to the lot of others, and in times of ignorance and superstition they were the greatest sufferers. Living comparatively alone, without books, without any clear understanding of the operations of nature, they became moody, timid slaves to superstitious fears. Let any one read the history of the witchcraft delusions in various towns of New England, or of the religious hates and persecutions prevailing in the last century and consider what it was to live in that unprogressed age. It is indeed difficult to comprehend the mental status, the mind suffering of our ancestors, living in an age when science offered no aid, no generous help to earnest inquiring men and women, or to any one even among those best educated. Movements and changes of the forces of nature, which we now look upon without concern, or regard as beneficent and necessary, they interpreted

Digitized by Google

as indicative of diabolical or divine malevolence, and thus their minds were filled with dark forebodings.

They were on the lookout for signs and omens, signs on the earth, in the earth, among animals and in the heavens. The pigs must be slaughtered in the right phase of the moon so that the pork would not shrink in the pot, and the howling of a dog under a window was ominous of an early death in the family. The religious hate of that age is illustrated in the case of Thomas Macy of Salisbury, who, in 1658, was fined 30 shillings for sheltering three Quakers about twenty minutes in a heavy rain storm. The records of the neighboring town of Andover indicate the horrible condition of domestic life in the treatment of those charged with the crime of witchcraft during the continuance of the delusion.

It is impossible to adequately realize the terror which a severe thunder storm caused in most families in New England in times prior to the advent of Franklin. Not a single intelligible or reasonable explanation had been given of the cause or nature of electrical phenomena, and people were compelled to observe in awe and superstitious fear, a display of electrical activities, now clearly understood by every school boy. A severe thunder storm was generally regarded as a special manifestation of God's anger, and when, in obedience to law, electrical discharges occurred, taking the human body in their pathway, such occurrences were viewed as indications of the divine displeasure towards the unfortunate individual. The fear of God's wrath, as manifested not only in thunderbolts, but in almost every untoward event or accident, tormented our ancestors, engaged in their rural avocations, to a degree of suffering of which we can form no adequate idea. Celestial visitants and appearances, as comets, eclipses, the

Digitized by Google

aurora, &c., were all viewed as special divine interferences, presaging calamities, as war, pestilence or famine. A farmer of Essex, living at the beginning of the last century, would have been agitated with terror had he cast his eyes upward to the skies and discovered a fiery object in the heavens like the one upon which we bestowed so much interest during the last summer months. He could look for no morning newspaper which would explain the nature of the terrifying object, nor was there any source from which a ray of light could be obtained. If he turned from the painful object in the skies, to his own surmisings, he gazed into a dark void, which had neither beginning nor ending.

Meteorological changes and movements were likewise productive of much apprehension and fear. In seasons of extreme drought or flood, upon occurrences of early frosts, when the harvests were in danger, deep gloom pervaded the hearts of all. The loss of a harvest, in those days, meant real suffering, and possibly famine and death. We are petulant and complaining, if our crops partially or wholly fail, but we are not tormented with fear of famine with all its dreadful consequences. Our facilities of communication are such, thanks to science and art, that we are able to speedily command the crop resources of any portion of a continent reaching through many degrees of latitude and many climates, so that failure in them all is impossible. We live in the pleasing consciousness that a want of food is a calamity not probable to continue long enough to cause serious alarm in any part of the country.

THE UNIVERSE GOVERNED BY LAW.

The discovery that the movements and operations in nature

Digitized by Google

spring from law, and not from caprice or blind chance, has had a benificent influence upon the world. It is a discovery of great interest to all in every condition in life. The observance of the growth of a plant as it gradually emerges from the embrace of the parent germ in the earth, and lifts itself up under the control of law, into the air and sunshine, is well calculated to fill the mind not only with astonishment, but with delight. The growth of a plant is not a miracle, it is not in any sense supernatural, and the deep mystery which formerly hung like a cloud over the movements in plant life has been cleared away, and the chemistry of the changes of molecules of matter in the formation of vegetable cells is now clearly understood. We no longer are under the control of terrors and delusions; science has pointed out that we live under the reign of law, that there is order in the universe of matter and mind, that God himself is the author and sustainer of law, and that he does not govern the world by special interferences or by supreme conceit. As farmers, we understand, that in emergencies, we are expected to help ourselves. In its agricultural aspects as well as in all others, the cradle epoch of the world's history has passed away, ignorance with evils so great as to render rural life a burden has been supplanted by the great facts of science and art.

HOME LIFE IN A FORMER AGE.

Probably no one of the industrial classes has been more beneficently influenced in their domestic or home life, by scientific knowledge, than farmers. This subject is exceedingly interesting, made so from a knowledge of the wonderful changes which have occurred in the past century, changes which have produced a complete revolution in all domestic

Digitized by Google

affairs and household comforts. Those of us whose memory extends over more than a half century, probably have a very correct idea of the character of the homes at the time the guns of Lexington startled the colonies as by an electric shock. There are a few of the old houses still standing in the country which have battled with the storms of a hundred years, and now, like the old "one horse shay" of Dr. Holmes, have about them

"A general flavor of mild decay."

The houses have an interior arrangement suggestive of cold discomfort, and combine but few conveniences for the benefit of the family. In 1775 and thereabouts, the science of chemistry in fact had no existence. No special attention had been given to geology, and what was known of botany, astronomy &c., seems as nothing compared with the extent and accuracy of our present knowledge. But little progress had been made in invention and the arts, hardly one of the modern contrivances for cooking and warming and lighting dwellings was known, not a pound of coal or a drop of kerosene oil, had been burned in the country. No iron stoves were used, and no contrivances for economizing heat were employed until Dr. Franklin invented the iron frame fire-place, which still bears his name. All the cooking and warming was done by the aid of fire kindled upon the brick hearth, or in the brick oven. Pine knots or tallow candles furnished the light for the long winter evenings, and sanded floors supplied the place of rugs and carpets. The water used for household purposes was drawn from deep wells by the creaking "sweep," and it is a curious circumstance that both the wells and the out buildings were often at long distances from the house. In a cold, windy

Digitized by Google

night in winter, to be called towards either of them was something dreadful to think of. No form of pump was used in this country, so far as I can learn, until after the commencement of the present century. There were no friction matches in those early days, by the aid of which a fire could be speedily kindled; and if the fire "went out" upon the hearth overnight, and the tinder was damp, so that the spark would not "catch," the alternative remained of wading through the snow a mile or so, to borrow a brand from a neighbor. Only one room in any house was warmed (unless some of the family were ill); in all the rest the temperature was at zero during many nights in winter. The men and women of a hundred years ago undressed and retired to their beds at night in an atmosphere colder than that of our modern barns and woodsheds. No furnaces or steam-pipes tempered the wintry air in their dwellings, but they probably slept soundly in the cold, even after eating heartily of shag-barks or butternuts, and washing them down with a quart or two of hard cider. The cooking was very simple, and the nature of the food plain and substantial. But few dishes were seen upon the table; pork and cabbage, corn bread, and milk, with "bean porridge," were the every day forms of food consumed.

If, however, science has accomplished much for farmers and farmers' wives in household comforts and conveniences, it has not added much to the material or pecuniary independence of the family. Scientific progress and invention has taken away those homely industrial occupations which were the prop and stay of our fathers and mothers of a century ago. Winter life on the farm and in the dwelling has been thoroughly revolutionized, but not beneficially so.

Digitized by Google

WINTER LIFE OF FARMERS.

The active work of farmers and their families was not in any degree suspended in winter until within a period of a third of a century. Indeed, the hardest labor of the year was performed by them in cold weather; they no more thought of housing themselves when the snows came than of living by begging or stealing. The country was comparatively new, and there were clearings to be made, logs to be cut, wood to be hauled, stone walls to be built (for many of our common field walls were put up in the dead of winter; the ways were to be kept clear of snow obstructions; corn was to be shelled and taken long distances to mill; the cows, oxen, horses, and sheep were to be fed, and the pigs looked after.

There were no idle hours for the farmers of a generation ago in winter; and the same may be said of the women and children in-doors. All was hurry in the kitchen from early daylight to sunset; and when the evening darkness came on, the knitting, spinning, darning, and patching continued until eight or nine o'clock, when all went tired to bed. The clothing worn by the family was of domestic make, fabrics of linen as well as of wool. The wool was taken from the backs of the sheep, scoured, carded, spun, woven, and dyed, on the farm premises. The bark of the butternut afforded a favorite tint of yellow-brown; and chipped logwood and copperas, bought of the distant grocer, gave the inky black suited to garments for Sunday use. The hum of industry never ceased in the dwellings of the earlier race of farmers, except at night and on the "Lord's Day."

But a great change has occurred, and now farmers have become, so far as winter life is concerned, a kind of hibernating

Digitized by Google

animal, like the bears and frogs in the woods and marshes. Coal has taken the place of wood to a large extent even in the country, so there is little chopping to be done; there are no walls to build, no heavy timber to haul, but little corn to husk or shell, few sheep and cows to feed, and but little marketing to do. When the first snow-storm spreads its white mantle over the face of mother earth, all is hushed and silent around most of our farm homesteads. The crowing of a solitary cock, perched upon the barnyard fence, seems to be almost a painful intrusion upon the general silence. As regards the family, the boys are not seen around the chopping-block, or on the hay-mow; the girls are seldom seen at the windows with their knitting-work, or in the snow path leading to the barn, with milk-pail in hand. The boys are away at school, or serving as clerks in some city store; the girls, if at home, sit listlessly about the red-hot parlor stove, discontented, lonely, with "nothing to do." And really, there is very little they can do; there is no wool to card or spin, no flax to run into threads, no industrial labor that will give them even a small return in ready money. The large factories do all the spinning and weaving, and make all the bonnets, stockings, and under and outer garments; and willing hands in isolated homes find no remunerative employment. The great want of the age is some industrial labor which can be performed at farm homesteads, and in the dwellings of the poor, so that a little money can be earned at *home*. In the progress of events, we have the expectation that some new avenues of industry will be opened in this direction, and when this occurs a blessing will rest upon thousands of happy homes.

The discouraged state in which large number of farmers and farmers' families live, is due in a great measure to the

Digitized by Google

prostrating influence of winter life. They do not come out well in the spring, the nerves are weak, the digestion is impaired, and the mind is cloudy. There is really no valid excuse for this unmanly, unstrung condition. The times have changed, progress has certainly done away with old employments and industries, but it has not closed up avenues to new ones. The trouble is, in the changing of the times, farmers have not changed with them. Every hour of winter could be profitably employed if they would properly understand their resources and capabilities. A higher education is what is needed.

MATERIAL INTERESTS PROMOTED BY SCIENCE.

The material interests of the farmer have been most signally benefitted or promoted by science, and specially so in recent times. It has pointed out better methods of tilling our lands, increasing dairy products, better methods of fattening cattle; it has given us improved breeds of domestic animals, improved implements, improved grasses and cereal products, improved fruits of all kinds, and an immense number of new varieties; it has taught us the importance of underdraining, and how to reclaim bogs and wet meadows; it has given us hay caps, and silos, poisons for our insect pests, and a thousand other things little and great, which I will not attempt to enumerate. Perhaps the greatest service of science is in the direction of providing new forms of plant food from new sources of supply. No matter with how much enthusiasm and intelligence a farmer pursues his calling, he can have but indifferent success unless he provides for his crops ample supplies of foods suited to their wants. He may dig and pulverize his soil, furnish plenty of water, and sow the soundest

Digitized by Google

seeds, unless the sprouting plant finds within easy reach something to feed upon it must languish and die. A generous and full supply of plant food lies at the very basis of successful husbandry.

In the address of a quarter of a century ago the matter of fertilizers was considered at some length, and it is interesting to contrast the extent of our knowledge then and now. We knew then, that nitrogen, phosphoric acid, and potash, constituted the great fundamentals of plant nutrition, but it was not known that any abundant and available sources of supply existed outside of animal excrement and waste organic substances. In speaking upon this topic in the address, the want of increased fertilizing materials is dwelt upon, and whilst deploring the existence of this great want, it was confidently predicted that it would be supplied. The language used is as follows: "We can hardly doubt as regards the abundant resources of nature or cherish a hesitating faith in respect to a future supply of all our wants in feeding the crops upon our farms. It must be that mother earth holds within her bosom all the materials needed to produce sustenance for man, and I feel confident that chemistry, which holds the key which has unlocked many rich chambers in the storehouse of nature, will open others fully capable of supplying all the wants of the husbandmen."

Since these remarks were made in the hearing of some of you, the science of chemistry has produced the key, unlocked, and thrown wide open the doors to nature's vast storehouses in which are found inexhaustible supplies of phosphoric acid, potash and nitrogen. How interesting is the fact, that no special favor or partiality has been shown to any section of the earth, in the distribution of these invaluable treasures. Vast

Digitized by Google

stores of phosphoric rocks had been found in Russia, Spain, France, the United States, and to some extent in England. During all the centuries, down to the last half of the present, these repositories of phosphoric acid had remained unrecognized. In Russia it is known that the very stones used for building purposes, paving streets, and for wells, and which were regarded as detestable ground incumbrances in some sections, contained in great abundance the precious elements of plant nutrition. In this country, in the region near Charleston, South Carolina, the phosphatic nodules had long been noticed on the surface of the low basin lands, and the farmers whose fields were suffering for the food these rocks contained treated them as nuisances to be got rid of in the easiest way possible. In Russia, the extent of country covered by these stones is estimated by Prof. Englehardt to exceed 10,000 square miles. In Spain there are mountains of phosphatic rocks not easily reached at present, and at Charleston, the area of nodule beds is larger than the whole state of Rhode Island.

THE CHARLESTON PHOSPHATE BEDS.

A visit to this locality two years ago, gave me great pleasure and a fund of interesting information. Geologically speaking, the region is in every respect remarkable. It is a vast basin, covered with mud and silt, and formerly open to the inflow of the tide. In this region are found the most wonderful remains of ancient and extinct species of animals. There are whole acres richly studded with fossils. Among these have been recognized the bones of the mammoth, mastodon, megatherium, mylodon, magalonyx, phocodon, several varieties of the sauri; also teeth and bones of the shark and numerous other fishes

Digitized by Google

in great variety; with teeth and bones of the horse, dog, sheep, ox, and hog, differing but little, if at all, from those belonging to our present domestic animals. Pieces of pottery, too, have been found, together with stone hatchets, all in the same bed, almost identical in their character with similar remains found some years since, near Abbeville, in France. There have also been found one or two human bones, though the evidence on this point is somewhat defective.

This strange collection, this miniature sepulchre of the ages, where animals extinct sleep side by side with others, the ancestors, perhaps, of our daily companions; where men, beasts, reptiles, and fishes would seem to have found a common grave, —these fossils occur in the postpliocene strata.

In a heap of the rocks, representing, perhaps, a couple of cords, I found fragments of deers' horns, perfect sharks' teeth, and numerous other fossils of more or less interest. In answer to the question, What is the history of this great sea-basin? I have little to say, as nothing is positively known regarding it. All rests upon conjecture, and of the hypotheses which have been presented some are so preposterous as to be unworthy of mention. That vast numbers of marine and land animals have in past ages been here entombed does not admit of a doubt. The evidence upon this point is conclusive. It may have been for some reason very enticing foraging ground for the two classes of animal life, and here they found common graves. It could not have been by any sudden entombment, as it is not probable that such immense numbers could have been congregated at any one time. The burials must have extended over great epochs, and those very far in the past.

The rock nodules holding the phosphates are detached

Digitized by Google

masses of rounded form, and correspond in size with our New England cobble-stones. They are formed out of the bones and fossil remains by solution, and subsequent aglutination, and rolled into small masses by the action of waves upon ancient sea beaches. I have never been so forcibly impressed with the evidence of design, specific and direct, as when studying these most interesting deposits. No one who has not looked into the subject, can form any adequate idea of the extent of manufacture and commerce which has grown out of this discovery. The commerce of the port of Charleston has been immensely increased. Vessels are continually arriving with cargoes of sulphur, guano, fish pomace, etc., and many are departing loaded with the rock and manufactured phosphates. England has thus far been the largest consumer, and English manufacturers have houses established in Charleston devoted to the interests of the trade. The value of the fertilizers shipped in 1870, three years after the discovery, was upwards of two millions of dollars. It is stated that the yearly production at the present time is about 300,000 tons of fertilizers, two-thirds of which is exported to England, and only one-third consumed at home.

Chemistry has pointed out that not a plant exists upon the earth which has not need for phosphoric acid, and when soils were in danger of losing their normal supply, it brought to view the significant fact that rocks piled almost upon our door-steps held it in inexhaustible quantities. Thus science has benefited agriculture in supplying this element of plant food. What has it done for the others ?

NITROGEN AND POTASH.

Nitrogen, the most expensive and hitherto the hardest to

Digitized by Google

obtain of the three important constituents of plant food, has been presented to us in several new combinations derived from formerly unknown sources. The natural nitre beds of Chili have, during the past twenty years, supplied vast quantities of nitrate of Soda, and I am happy to be able to state that information has just been received from Dr. Hanks, State Mineralogist of California, that immense beds of nitrate of Soda have been discovered in Nevada at Brown's station, Hambott Desert. This addition to the mineral resources of our marvellous country is one of great importance, and has a direct bearing upon the future agricultural interests of the nation. Beside the nitric acid salts, nitrogen is furnished in sulphate of ammonia which comes principally from the gas manufacturers. The herring fisheries on our own and other coasts, supply enormous quantities of dried fish pomace, which is rich in nitrogen. The entire waste organic products of our cities and large towns which hold abundance of nitrogen in available forms will soon be utilized, as recent experiments promise success in this direction. Most important of all, perhaps, is the reasonable expectation that the vast occan of gaseous nitrogen in the air, will be fixed in certain combinations, so as to be made available for the uses of husbandmen. Chemistry is at work upon this problem, and the outlook is hopeful to say the least.

What of potash, the third in the trio? I have only to point out to you the enormous production of this alkali, at the salt mines in Germany, a quantity so large as to influence prices of potash combinations the world over. Notwithstanding the increased consumption in agriculture and the arts, and the failure of supplies from wood ashes, the price of potashes has greatly declined during the past fifteen years, and it is proba-

Digitized by Google

ble that still farther decrease in prices will occur. In the crude muriate, and to some extent in kainite, we have presented potash in available forms for agricultural purposes at comparatively low rates. Twenty-five years ago, this source of the agent was entirely unknown.

Science has pointed out correct methods of combining these substances to fit them for farm use, and they have been employed in enormous quantities, rendering our lands fertile and increasing our crops. During the past twenty years, I have prepared and used on my farm nearly one hundred tons of artificial fertilizers, and the employment of domestic manures has been to a large extent dispensed with. Not a load of animal manure has been purchased, and the farm, I think, will compare favorably with others in the county in condition and productiveness. The pressure of a strong temptation is felt to extend remarks upon the most important topic of farm fertilization, but time and the scope of this address forbid.

INFLUENCE OF SCIENCE UPON FRUIT CROPS.

Prominent among the benefits conferred by science is the improvement of our fruit crops. It does not require a memory extending over many years to recall a period when the apple was confined almost exclusively to varieties suited only to cider making; and, as regards pears, until within thirty years none of the really good varieties were known upon our farms. Peaches we had to some extent, but the fruit was acid and imperfect. Fifty years ago, not a single horticultural society existed in the United States, and there were but few agricultural societies; now there are more than fifteen hundred state and county organizations. At that period the products of our soil were so insignificant as not to be thought

Digitized by Google

worthy a place in the statistics of our industry; now our exports amount to more than six hundred millions of dollars annually. Of apples alone, we exported last year one million three hundred thousands in value, and of canned fruits nearly one million. As regards the soft fruits, strawberries and raspberries, I do not remember to have seen cultivated varieties until long after reaching adult age. Now we have of strawberries alone cultivated in gardens, more than three hundred and fifty distinct varieties. Of grapes we formerly had none but those which grew wild in the swamps; now we have about one hundred varieties under cultivation, and grape culture is an industry of immense importance. We are rapidly approaching a time when this country will be the greatest wine producing region in the world. Of pears we have now more than eight hundred and ninety varieties, and on many farms and in many gardens this noble fruit is grown in such abundance as to become almost a waste product. Our county of Essex is peculiarly adapted for fruit growing, and it has become a source of considerable revenue to farmers. We have not been able to supply our markets with peaches in late years, but I confidently believe that we have entered upon a cycle of time when this fruit will not continue to fail us. Disease in the tree and fruit, caused perhaps by insects, is a greater obstacle to contend with than climate. Careful observation extended over many years leads me to conclude that the failure of the peach crop has not been due to our severe winters. Fruits manifestly are subject to laws of periodicity; that is, they have cycles of barrenness and great productiveness, and it is probable the pear is now near the end of a cycle of extreme over production, and the peach is entering upon one of generous production. The wide spread leaf

Digitized by Google

blight in the pear, is a significant indication of waning vitality and the fruit now so abundant as almost to create disgust, may soon become the rarest and choicest of any upon our tables. The peach crop in the Middle States has, the present season, failed to a large extent, whilst that in Massachusetts would have been very large if disease had presented no interference. The enormous value of this crop to New Jersey, Delaware and Virginia, is but imperfectly understood, and it is only from statistics that we obtain correct knowledge. The long train of cars loaded with the fruit brought over the New England Railroad, convey not only the most delicious morsels to tickle the palate, but rich odors, more grateful to the sense of smell, than those which came from "Araby the blest." It is known that the odor of the peach is perceptible in the atmosphere along the line of the railway for a considerable time after the trains have passed.

AGRICULTURAL EDUCATION.

In any statement of the benefits which science has conferred upon the farming interests, the inference must naturally follow that very many farmers have not secured or participated in the benefits so freely and generously offered. This arises from several circumstances and obstacles. Some are naturally disinclined to examine into new methods and new discoveries; they prefer the old ways, and have little confidence in anything new; others are too indifferent to give attention to that which requires a little thought and the exercise of discriminating judgment. There are farmers, as well as men in other pursuits, who seem to have been born under the influence of evil planets; their dish, so to speak, is always wrong side up. They come into the world the discouraged offspring of perhaps

Digitized by Google

discouraged mothers, and their mental feebleness unfits them to command advantages which the world offers. But the greatest obstacle is a want of proper instruction, the want of some elementary training in the principles of science to afford a foothold for independent investigation and self culture. The whole theory of agricultural education is based on the idea that farmers' boys and the young men must be educated by attending some agricultural college, so called, for a term of years; but the farmers themselves, the real workers in the field, may be left to obtain light and help from the profitless disputes and endless discussions, common in farmers' clubs and institutes. This is manifestly all wrong, and I am certain, gentlemen, you will sustain me in so judging. It is an erroneous view that men in middle life, and those further advanced, are incapable or not willing to be instructed accurately in those branches of scientific knowledge which give to modern husbandry all its important advantages. The young men may attend the agricultural colleges, or any other institutions of learning, and be greatly benefitted by a prolonged course of study, but we need another kind of college—a *farmer's college*, where the practical workers can be graduated without diplomas, at the end of a brief course of instruction extending over a few days or weeks.

The language of science and its methods seem to most as unintelligible and very difficult to be learned. It is so to a certain extent, but abstract science need not belearned. It would be absurd to attempt to teach a middle-aged workingman fully regarding chemical symbols and formulas, but you can teach him how to estimate the money value of a fertilizing compound offered for sale in the markets. How few the purchasers who are competent to sit down in a store before a bag of that

Digitized by Google

apocryphal mixture called "superphosphate," and from the labels or stencillings which purport to present a statement of the nature of the compound, obtain any clear information of its constitution or actual value? Every farmer certainly ought to be able to do this for his own protection, and there is no good reason why he cannot.

These views are based on many years spent in scientific investigation and technical work, and in conducting the affairs of an experimental farm. From intimate association with practical husbandmen in many parts of the country, I am convinced that they can easily acquire the leading facts and principles in any department of science, if right methods of instruction are adopted, and it is a wrong view which confines instruction to youth, and ignores the busy working middle-aged man who is hungering for light and knowledge.

A FARMERS' SCHOOL.

I will endeavor to present a brief outline of a school of instruction for farmers which has been carefully considered, and regarded as practicable. To afford a clearer understanding, it may be assumed that a school has been established at Danvers, Andover, Salem, Haverhill, or some other convenient point, for the benefit of the farmers of Essex.

The building in which the school is held may be a hall with convenient rooms attached, such as is found in several of the cities and larger towns, or it may be a building specially constructed, inexpensive but comfortable, with lecture room, general meeting room, and another which can be improvised for a laboratory. Two terms are held each year, one in June at the close of the planting season, the other in December and each continues during two weeks. The instruction is

Digitized by Google

mainly by familiar, practical lectures continuing one hour, and each fully illustrated by experiments, specimens, models, plants, seeds, etc., so as to convey to the eye as well as to the ear, a clear understanding of the topic considered. They are scientific lectures presented after scientific methods, differing only in the use of language. That is employed which is adapted to non-scientific minds. There are six of these lessons every day, and during the week of six working days, there would be thirty-six lectures, and in the term of two weeks, seventy-two.

There are six upon chemistry, elementary and applied, each lecture profusely illustrated by experiments; six upon the microscope, its use and application to husbandry. By means of the solar microscope and the electric lamp, most beautiful and instructive lessons are given. Six lessons upon fertilizers, domestic and commercial, illustrated by experiments, in compounding and preparing for farm use, &c. Six lectures upon how plants feed, and how plants grow. Six lectures upon the history of soils, their origin, formation, &c. Six upon dairy products, milk, cream, butter and cheese.

These comprise the course for the first week, summer term, and are presented as typical of the course and nature of the instructions imparted. The lessons begin at 9 o'clock each morning, and the topics follow each other until 12, noon. At 2 the lessons are resumed and continue until 5 o'clock, P. M. The daily work is as follows: at 9 o'clock, Chemistry; 10, the Microscope; 11, Fertilizers; 2 P. M., How Plants Grow; 3, Soils; 4, Dairy Products. This arrangement gives variety and prevents weariness. Text books may or may not be used, but each attendant is provided with book and pencil for taking notes, and during the lessons any one is permitted to ask questions, but no discussions are permitted.

Digitized by Google

One, two, four, or the whole course of lectures may be attended, as suits the inclination or convenience of the farmer. It is seen at a glance how many interesting and important topics are presented in a single week, appealing to the understanding through the eye, as well as the ear. Extend them through another week, or over three more, during both terms and changing the topics so as to cover a complete course in scientific husbandry, and consider what a vast amount of accurate practical information is afforded by this school, in the year, comprising only four weeks' instruction.

The instructors, four or six in number, are selected with special reference to their fitness for the different positions to be occupied. There are men of good common sense, having an aptness for popular instruction, and a competent fund of positive scientific knowledge, and also ingenious in illustrative experiments and in the use of apparatus. As regards funds for the support of such schools, they should be furnished by the State, and it could well afford to do so. Can any one doubt the influence of such schools upon real agricultural progress? The solid prosperity of the farming interests must be promoted by this higher education, and I believe they would be well patronized by working farmers, the class now so much neglected.

One body of teachers would supply the wants of the State, if schools were established in eight or ten different localities, as they could move from one to the other, having school terms in different months of the year. These schools would be for the benefit of the youth as well as for middle-aged men; the farmer and his sons would attend them in winter, and doubtless in summer, for the attractions and advantages would be

Digitized by Google

so great that no ordinary hindrances would be allowed to stand in the way.

For several years I have entertained the design of endeavoring to secure the establishment of a school of husbandry for the benefit of the husbandmen of Essex County, on the plan which has been outlined, and the barn-floor lecture, given in my farm barn in 1878, at which many of you were present, was but an experiment to test the feasibility of the undertaking. The success of that homely effort dispelled all doubt of the wisdom of the plan, and it would have been carried out at once, had not failing health and a pressure of business, public and private, prevented. I still hope to be able to aid in such an important enterprise, and that the time is not very remote when the school will be in active progress.

Our Agricultural Colleges, of which there is but one in any State, (however generally useful they may be), do not meet the needs of practical agriculture, and neither do the agricultural schools in Europe, although better than ours, and far more numerous. In England, the famous college at Cicencester has proved a complete failure, and the same may be said of most of the other schools. *France* has 43 schools of agriculture with about 30 pupils in each. The government pays the board of each pupil, and allows him 70 francs a year for clothing. *Germany* has 150 schools of agriculture, arboriculture and viniculture; each has farms and gardens attached. *Austria* has 70 schools with 2200 students, but better than all she has 174 agricultural *evening* schools with 5500 students. Italy is in advance of most European countries in its provisions for agricultural education, but it must be understood that none of these comprehend the idea of educating the workingmen on the farms. In this they are defec-

Digitized by Google

tive, and satisfactory results will not be realized until radical changes are made.

SCIENCE AND THE CORN CROP.

The relations of science to agriculture are indeed very close and intimate, but we must not conclude that it is capable of removing all obstacles or of helping us out of all our difficulties. In advocating a higher education for soil cultivators, I attach far more importance to its general influence in elevating mind and thought, (thus increasing the powers of induction and analysis), than I do any specific helps, great as those may be. Applying it to the special department of soil fertilization, a field in which it has perhaps conferred its most marked benefits, it is manifest that the horizon is not cloudless in that direction, and that many important questions are still involved in doubt. We have a curious illustration of this, in the fact that the proper or best form of plant food required by a crop of Indian corn still remains unknown. Messrs. Lawes and Gilbert, the distinguished experimenters in England, say that a "mixture of nitrate of soda and superphosphate is the best possible manure for corn." Prof. George Ville, director of the Government farm at Vincennes, France, says, "that nitrate of potash affording 24 pounds of nitrogen and 79 pounds of potash; and acid phosphate of lime affording 81 pounds of acid and 360 of sulphate of lime, are necessary for one acre of corn." Mr. Stockbridge, of the college at Amherst, gives a formula, which affords 64 pounds of nitrogen, 31 of acid, and 77 of potash, for an acre.

It will be noticed that Lawes and Gilbert omit potash entirely, and Prof. Ville and Stockbridge supply it in their formulas. All include nitrogen; Mr. Lawes specifying no quantity, Mr. Ville using but little, and Stockbridge a very large amount.

Digitized by Google

My own experiments and observations, which extend over a period of nearly a quarter of a century, lead me to conclude that no fixed formula can be devised which will insure on all lands a good crop of corn, or of any other cereal. No two fields in the state, county or town, or indeed on any large farm, are adapted to like treatment; we are liable to be misled by these crop formulas. They are asked for and there is a strong temptation to supply them, but they are at best but imperfect guides. I have uniformly raised heavy crops of corn without the use in any instance of animal excrement, but the formulas have been adapted to the ascertained wants of the field, and it is here, gentlemen, where the needs of a higher scientific training for farmers come into view. A cultivator of the soil must be fitted to observe, to experiment intelligently, to study his own land, before he can secure the highest success in his vocation, or avail himself of the important benefits which science is capable of affording.

But I will not detain you longer. It must be obvious to all that the limited scope of a single address is entirely inadequate to a proper discussion of the important subjects to which I have called your attention. The object has been to awaken thought and discussion, which lead to right action, rather than to amuse or instruct.

We have lived, gentlemen, those of us who are standing near, or upon the threshhold of the unknown life, in the most important and interesting epoch of time known to man since his advent upon our planet. The startling events in the unfolding of the great forces and mysteries of nature, mark our age as singular and wonderful, and the language of our hearts and our lips is, I trust, that of sincere thankfulness for having lived in it. There has been no age when thought, study,

Digitized by Google

32-38

CATTLE SHOW AND FAIR.

The sixty-first Annual Exhibition was held at Haverhill, Sept. 27 and 28, 1881. The attendance was very large and the Fair a successful one.

The show of Cattle, Horses, Agricultural Implements, &c., was held on the farm of George W. Duncan, Esq., as was also the Ploughing Match.

The exhibit of Fruits, Flowers, Vegetables, Domestic products, &c., was in the City Hall.

The entries in the several departments were as follows :—

Fat Cattle, 8; Bulls, 14; Milch Cows, 24; Herds of Cattle, 4; Heifers, 45; Working Oxen and Steers, 11; Steers, 9; Town Teams, 3; Stallions, 8; Brood Mares, 13; Family Horses, 10; Farm and Draft Horses, 6; pairs of Draft Horses, 8; Colts, 17; Swine, 40; Sheep, 21; Poultry, 34 coops; Ploughing, 26 entries; Agricultural Implements, 3 collections and 9 entries; Bread and Honey, 18 entries; Dairy, 5; Pears, 78 entries, 300 plates; Apples, 49 entries, 165 plates; Peaches, Grapes, &c., 54 entries, 104 plates; Flowers, 32 entries; Vegetables, 60; Counterpanes and Rugs, 159; Articles manufactured from Leather, 10 entries; Fancy Work and Works of Art, 182; Children's Work, 20.

CHAS. P. PRESTON, *Secretary.*

FAT CATTLE.

The Committee on Fat Cattle report that eight cattle were entered for premium, all of superior quality, good shape and fine condition. Six only complied with the rules of the Society, requiring exhibitors to state manner and expense of feeding, The Committee award the premiums as follows :—

Digitized by Google

To Joseph Newell, of West Newbury, for his Hereford Cattle, the first premium of $12.

To S. & N. Longfellow, of Groveland, for Steer four years old, the second premium of $10.

To Thomas G. Ordway, of West Newbury, for pair of cattle, the third premium of $6.

Sherman Nelson, John A. Ellis, Elbridge Merrill, Charles Perley, Benj. E. Emery.—*Committee.*

BULLS.

The Committee on Bulls award as follows:—

To Eben Sutton, of North Andover, for Short Horn Bull, "Young America," first premium, $10.

C. S. Bradley, West Newbury, for Short Horn Bull, "Edward 3d," second premium, $6.

W. A. Russell, Lawrence, Holstein Bull, "Sligo," 5 years old, with 5 of his stock, first premium, $15.

Holstein Bull, "Lord Clifden," 3 years old, first premium, $10.

Richard Newell, West Newbury, Jersey Bull, "Gray Earl," 2 years old, first premium, $10.

George W. Russell, Lawrence, Jersey Bull, second premium, $6.

J. D. W. French, North Andover, Ayrshire Bull under 2 years old, first premium, $6.

C. S. Bradley, West Newbury, Bull under 2 years old, second premium, $4.

James P. King, Peter D. Smith, Andrew Mansfield.—*Committee.*

Digitized by Google

MILCH COWS.

The Committee on Milch Cows submit the following report:

There were sixteen cows entered for the different premiums offered by the Society, and the committee, after a careful examination of the cows and the statements, recommend the following awards:—

Special Premium of $25, for the best Milch Cow of any age or breed, with satisfactory records in quarts or pounds of her daily yield of milk for one or more years, (for which there were three entries), to William A. Russell, of North Andover.

For the best Milch Cow, Foreign, Native, or Grade, (for which there were five entries).

1st Premium, $12, to H. G. Herrick, of Lawrence, for his Grade Jersey.

2d Premium, $6, to John M. Barry, of Haverhill, for his grade Durham.

Thorough Bred Ayrshire, (for which there was but one entry), to each of the premiums.

1st premium, $12, to J. D. W. French, of North Andover, for his Cow, "Nina Lyman."

2d Premium, $6, to J. D. W. French, of North Andover, for his cow, "Roxanna 5th."

THOROUGH BRED HOLSTEINS.

1st Premium, $12, to William A. Russell, North Andover, for his cow, "Maud Clay."

2d Premium, $6, to William A. Russell, North Andover, for his cow, "Maid Fairfax."

NATIVE OR GRADE.

1st Premium, $12, to William A. Russell, North Andover, for his cow "Bessie," a grade Holstein and Durham.

2d Premium, $6, to Nathan Priest, of Haverhill, for his Native Cow.

Two entries were not accompanied with a written statement

Digitized by Google

that met the requirements of the Society, and one without any statement, and for that reason the owners of the stock were not entitled to a premium.

There were some good Imported Thorough Bred Jerseys entered by Richard Newell of West Newbury, and by Thomas Saunders of Haverhill, worthy of a premium, but for the want of a statement the committee were obliged to pass them. Also a cow owned by J. E. Gale, of Haverhill.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :--

I enter for your consideration my Holstein Cow, "Maid Marion," 9 years old, for the special premium of $25.

Her milk record for four years is as follows:

First season with first calf,	421	days,	11,990	pounds.
Second season,	304	"	9,375	"
Third season,	305	"	9,560	"
Fourth season,	311	"	11,700	"
	1341	days,	41,625	pounds.

41,625 pounds, or an average of 31.06 lbs. per day.

Dropped her last calf Oct. 26, 1880, and is due to calve again Feb. 5th, 1882.

Her record from Nov. 1st, 1880, to Sept. 1st, 1881.

Nov.,	30	days,	1702	lbs.	56 2-3	per	day.
Dec.,	31	"	1502	"	50 1-10	"	"
Jan.,	31	"	1441	"	46 1-2	"	"
Feb.,	28	"	1296	"	46 1-3	"	"
March,	31	"	1266	"	40 5-6	"	"
April,	30	"	1313	"	43 4-5	"	"
May,	31	"	1366	"	44 1-5	"	"
June,	30	"	1154	"	38 1-2	"	"
July,	31	"	1108	"	35 4-5	"	"
Aug.,	31	"	1037	"	33 1-2	"	"
	304	days,	13,235	lbs.			

An average of 43 53-100 pounds per day.

Digitized by Google

Her feed in summer, has been grass until July, and then in addition to the grass, green corn fodder and 3 quarts meal per day.

In winter what dry hay, corn fodder and ensilage she will eat up clean, with 8 quarts shorts, 4 quarts corn and cob meal, 1-3 bushel of roots.

STATEMENT OF H. G. HERRICK.

To the Committee on Milch Cows :—

I enter for the Society's premium for best milch cow, my Grade Jersey, 6 years old.

She dropped her last calf April 4, 1881, is due to calve again April 3d, 1882.

Her record in May is as follows :—

May	15,	A. M.	9	qts.;	P. M.,	9	qts.	18	quarts.
"	16,	"	9	"	"	9 1-2	"	18 1-2	"
"	17,	"	8 1-2	"	"	9 1-2	"	18	"
"	18,	"	9	"	"	8 3-4	"	17 3-4	"
"	19,	"	9	"	"	9 1-2	"	18 1-2	"
"	20,	"	8 3-4	"	"	9 1-4	"	18	"
"	21,	"	9	"	"	9	"	18	"
"	22,	"	8 3-4	"	"	9 1-4	"	18	"
"	23,	"	9	"	"	9	"	18	"
"	24,	"	8	"	"	9 1-4	"	17 1-4	"
"	25,	"	9	"	"	8	"	17	"
"	26,	"	8 3-4	"	"	9	"	17 3-4	"
"	27,	"	9	"	"	9	"	18	"
"	28,	"	9	"	"	9 1-4	"	18 1-4	"
"	29,	"	8 3-4	"	"	9	"	17 3-4	"
"	30,	"	9	"	"	9 1-4	"	18 1-4	"
"	31,	"	8 3-4	"	"	9	"	17 3-4	"
	17 days,							304 3-4	quarts.

An average of 18 quarts per day.

In the month of September her average daily yield was 12 quarts.

Digitized by Google

Her feed has been hay in winter, grass in summer with 2 quarts of corn meal, and a part of the time 1 quart of cotton seed meal, daily.

P. S. This cow is supposed to be pure bred but as I have no record I enter her as a grade.

STATEMENT OF JOHN M. BARRY.

To the Committee on Milch Cows:—

I enter for the Society premium, for the best Milch cow, one Brindle cow, from native stock crossed with Durham, nine years old. She dropped her last calf, July 5, 1880, is due to calve again Oct. 2, 1881.

Her average milk per day in July, was 18 1-2 quarts; in August, 17 quarts per day.

Her feed was common pasture without any grain, except 4 quarts of shorts per day for one week after calving.

STATEMENT OF J. D. W. FRENCH.

To the Committee on Milch Cows:—

I enter my Ayrshire cows, "Nina Lyman" and "Roxanna 5th," for premiums for thorough-bred Ayrshire.

"Nina Lyman," No. 4611 A. R., dropped April 15, 1874, dropped her last calf Feb. 20, 1881, is due to calve again Jan'y 20, 1882.

Record of Milk.

1878, 6631 lbs.; 1879, 5485 lbs.; 1880, 5327 lbs.

"Roxanna 5th," No. 4606 A. R., dropped May 27, 1877, dropped her last calf March 15, 1881, is due to calve again Feb. 20, 1882.

Record of Milk.

1880, 5387 lbs.

The feed of these cows has been in summer, pasture, with sometimes in addition, fodder, grass, and shorts, from 2 to 4 qts., according to the feed in the pasture. In winter, dry hay, 1 peck roots, 2 qts. corn and cob meal, per day.

Digitized by Google

STATEMENT OF WILLIAM A. RUSSELL.

To the Comuittee on Milch Cows :—

I enter for the Society premium my thorough-bred Holstein cows, " Maud Clay," No. 390 and " Maid Fairfax," No. 377.

" Maud Clay" is 5 years old. Dropped her last calf October 6, 1880, is due to calve again Oct. 6, 1881. Milk record from Jan. 1st to July 1st, 1881 :—

January,	31 days,	1396 lbs.
February,	28 days,	1248 lbs.
March,	31 days,	1022 lbs.
April,	30 days,	1041 lbs.
May,	31 days,	1177 lbs.
June,	30 days,	805 lbs.
	181 days,	6689 lbs.,

an average of 37 lbs. per day.

" Maid Fairfax" is 5 years old. Dropped her last calf Jan. 6, 1881, is due to calve again Dec. 31, 1881. Milk record from Jan. 10 to July 1, 1881 :—

January,	21 days,	954 lbs.
February,	28 days,	1248 lbs.
March,	31 days,	1022 lbs.
April,	30 days,	1041 lbs.
May,	31 days,	1107 lbs.
June,	30 days,	850 lbs.
	171 days,	6222 lbs.,

an average of 36 1-2 lbs. per day.

Their feed was grass in summer until July, and then in addition to the grass, fed green corn-fodder and three quarts of meal a day. In winter, what hay, corn-fodder, and ensilage they would eat, with eight quarts shorts, four quarts corn and cob meal and one-third bush. roots.

Digitized by Google

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows :—

I enter for the Society's premium for Native or Grade cows, "Bessie," a Grade Holstein crossed with Durham, 6 years old. Dropped her last calf Nov. 11, 1880, is due to calve again Nov. 1, 1881. She gave from January 1st to May 1st, 4252 lbs. of milk, an average of 30 lbs. per day.

The manner of feeding the same as for thoroughbreds.

STATEMENT OF NATHAN PRIEST.

To the Committee on Milch Cows :—

I enter for the Society's premium on Native or Grade cows. My cow is 9 years old. Dropped her last calf in March, 1881, is due to calve again in June, 1882, Average of milk per day through June, 16 quarts ; and 10 quarts per day through September.

Her feed has been common pasture, with 5 quarts of shorts and one quart of meal per day.

The committee found no entries of cows for their butter-making qualities. We are aware that the present manner of feeding tends towards milk-making, yet we hope the art of butter-making will not be lost sight of here in Essex county.

We hope that next year some of our farmers will exhibit some cows with statements showing how much butter they will make per day or month, and the amount of milk required for a pound of butter. Respectfully submitted,

Henry A. White, Isaac N. Lane, Chas. J. Peabody.—*Committee.*

Digitized by Google

HERD OF MILCH COWS.

There were three herds of milch cows entered for premium. One of twenty thorough-bred Short Horns, by C. S. Bradley of West Newbury. One of six thorough-bred Holsteins, and one grade Holstein and Ayrshire, by W. A. Russell of Lawrence; and one of five pure Jerseys, by Thomas Saunders of Haverhill.

The committee recommend to W. A. Russell of Lawrence, the first premium of $18.

Mr. Russell has complied fully with the requirements of the Society, and, as will be seen by the annexed statement, exhibits a remarkable yield of milk, which perhaps, cannot be equalled in the county.

It will be said that these cows were fed high, and ought to give some milk; true, but it must be remembered that a cow is simply a machine for the conversion of raw material into milk, and that while there is a difference in machines the manufactured article cannot be expected in quantity, without a liberal supply of the material of which it is made.

But few cows have the capacity and strength of constitution of the Holsteins to bear feed, and we venture the assertion that the cows of Essex County, fed proportionally to Mr. Russell's will not average over half the milk produced by this herd. It is evident that Mr. Russell has some very fine machines for the production of milk, and that, if the end sought for be the production of milk for sale or the manufacture of cheese, they represent a very valuable breed of cattle, as their milk is well known to be rich in caseine.

Judge Bradley exhibited as fine a herd of thorough-bred Short Horns, bred for dairy purposes, as probably exists in the State, but, as they have been kept for breeding purposes, and no record kept, and so no written statement given; the committee could not give him a premium, but recommend a gratuity of $12, equal to the 2nd premium.

Your Committee feel that the Society is under obligation to Judge Bradley for exhibiting so fine a herd of thorough-bred animals of a breed, which, in its purity is of so high price as

Digitized by Google

to be beyond the reach of the common farmer, but in its grades has added more to the value of the neat stock of the country, for the practical purposes of life, than any other.

Mr. Saunders has a fine herd of Jerseys, evidently well adapted for the purpose for which that breed is usually kept, viz.: rich cream and fine butter. The committee recommend to Thos. Saunders of Haverhill, the 3d premium of $10, for his herd of pure Jerseys.

WM. B. CARLETON,
For the Committee.

STATEMENT OF WM. A. RUSSELL.

To the Committee on Herd of Milch Cows:—

I enter for your consideration my Holstein cows "Lady Clifden," "Maid Marion," "Cathrena," "Lavinia," "Margo," "Lady Lawrence," thorough-breds. "Sally," a grade Ayrshire and Holstein.

"Lady Clifden"	dropped	last	calf,	May 15.
"Maid Marion"	"	"	"	Oct. 26.
"Cathrena"	"	"	"	Feb. 6.
"Lavinia"	"	"	"	Mar. 5.
"Margo"	"	"	"	Feb. 13.
"Lady Lawrence"	"	"	"	Mar. 6.
"Sally"	"	"	"	Feb. 5.

Their milk records, which were started at different times and added up to the 1st of Sept., are as follows, (the milk of the different cows being weighed at every milking and recorded):

					lbs.
"Lady Clifden's"	record	for	103	days,	5969
"Maid Marion's"	"	"	304	"	13235
"Margo's"	"	"	199	"	8763
"Cathrena's"	"	"	206	"	7486
"Lavinia's"	"	"	176	"	6209
"Lady Lawrence's"	"	"	177	"	6106
"Sally's"	"	"	199	"	6578
			1364		54346

An average of 39.91 lbs. per day.

Digitized by Google

Their winter feed has been 8 qts. meal (ground with cob), 1-3 bush. roots and what hay, corn fodder, and ensilage they would eat, feeding them at about 7 o'clock in the morning, and again at 3 in the afternoon. Watered twice a day after feeding.

Summer feed, pasture with 3 qts. meal, and after July 1st, fed them with hay or green corn fodder, morning and night.

Cows giving a heavy flow of milk, are milked 3 times a day.

Respectfully submitted,

WM. A. RUSSELL.

STATEMENT OF THOMAS SANDERS.

This Herd of cows was wintered chiefly on ensilage, and all except "Decca 3d" and "Birch-brow" calved last autumn. "Decca 3d" calved July 1st, and "Birch-brow" May 12th.

Since going to pasture have had no grain except for the last three weeks, when they have had 8 qts. of shorts among the *five*, or about 3 pints each, every night. They have given on an average 10 qts. each a day, since calving.

I enter these cows not so much for the quantity of milk they give, as for their wonderful lasting qualities. I endeavored to select such cows as in my judgment possessed this quality, and I have been exceedingly gratified by the result.

It is too early to pronounce judgment on that trait in respect to "Birch-brow" as her first calf was dropped in May, but she has every indication of keeping up with the rest of the herd, her mother "Nelly" holding out better than any cow in the herd. I think "Nelly" will average 10 qts. per diem, the year round.

Her calf "Birch-Boy," by Ben, dropped Nov. 28th, 1880, together with "Black-Birch" whose dam "Viola" is one of the best milkers in one of the best of herds in Rhode Island, viz., Judge Bradleys', whence these animals all came, I expect in the future will do good service in improving the dairy stock of this county.

Respectfully submitted,

THOMAS SANDERS,

per G. V. Ladd.

Digitized by Google

HEIFERS—FIRST CLASS.

Committee on Heifers, First class, have attended to their duty and report as follows :—

AYRSHIRES.

J. D. W. French, Esq., North Andover. Two heifers under four years old in milk.

"Jenny Douglas," 1st premium, $12. "Modesty 4th," 2d premium, $6.

Two yearlings, "Modesty 5th", 1st premium, $6. "Ruby Hebron 6th," 2d premium, $5.

One calf, "Roxanna 6th", 1st premium, $5.

Mr. French's statement appended is very full, and was quite gratifying to the committee. Exact information on all these subjects is what is sought for.

Mr. French has evidently never forced his thorough-breds, for a milk record, but kept them in good breeding condition, and at the same time gets a fair milk record. There is no guess work in regard to Mr. French's record. He has the milk weighed carefully night and morning every day, and the record from his herd has averaged for the last six years 2600 qts. of milk per cow. This is certainly a good average. Mr. French has bred his own herd. His method is to select the best cows as breeders, and with a careful selection of the bull, he hardly ever fails of having good milkers. Feeding, however, is an important element with him. He keeps a young animal growing from birth to maturity. From such breeding he has the satisfaction of having a home-bred herd—good mothers, hardy, and not liable to disease.

JERSEYS.

Richard Newell of West Newbury. "Lady Gerrish," 1st premium, $5. "Lady Merch," 2d premium, $3.

Digitized by Google

Mr. Newell's stock comes from two imported cows. "Ethel Gray", No. 8623, and "Queen", No. 8624, and bull "Gray Earl," No. 4318, in the A. M. Jersey C. C. herd book.

This stock is probably as fine as can be found in the state. His cows do not give a great quantity of milk, but it is very rich. The average is about seven qts. per day, through the year, but six qts. of milk makes a pound of butter by actual weight.

Amos Ridley of Georgetown. Two year old heifer, 1st premium, $6.

SHORT HORNS.

C. S. Bradley, West Newbury. "Evangeline 2d", 1st premium, $6. "Flora Graneck", 2d premium, $5.

HEIFER CALVES.

"Imperial Rose 5th", 1st premium, $4. "Imperial Rose 2d", 2d premium, $3.

The above were the only Short Horns offered. But were fine specimens. Showed careful breeding, and were well worthy the premiums given.

HOLSTEINS.

Wm. A. Russsell, Lawrence. Four year old "Lady Bess", 1st premium, $12; "Siresa," 2d premium, $6.

One year old. "Grace Andover", 1st premium, $6. "Fannie Noble", 2d premium, $3.

CALVES.

"Emma Clay", 1st premium, $5. "Clara Clinton", 2d premium, $3.

The Committee again had to award the well deserved premiums upon a single herd. Their only difficulty being, to select, when all were so fine single specimens that were more deserving than others.

Digitized by Google

Mr. Russell's stock was accompanied with a very full statement.

The Holsteins are very large, and must consume a great amount of feed, but they are great milkers, and in these days of silos and cheap feed, may be the coming cow for the farmers of Essex Co.

Ben: Perley Poore, West Newbury, entered some Heifers for exhibition only. They were White Short Horns. Bred at Indian Hill farm since 1830, by Benjamin Poore and his son Ben: Perley Poore.

They are of the milking strain of Short Horns, have a yellow skin, and give large quantities of milk, when liberally fed. The milk is not so rich as that given by some other breeds and is not consequently so well adapted to butter making, but it is claimed that no other breed will give so much milk on the same feed.

The Heifer exhibited by Major Poore, possessed the Short Horn points and was remarkably large of her age. The calves of this breed are of course large and valuable, and the cows when old take fat on easily, and make good beef.

John L. Shorey, John L. Colcord, George Buchan.—*Committee.*

STATEMENT OF J. D. W. FRENCH.

I enter my Ayrshire heifers, "Jennie Douglas" and "Modesty 4th" for premiums, for best heifers under 4 yrs. old in milk.

Pedigrees.—"Jennie Douglas," 5455, A. R. Dropped 15th Sept., 1878. Dam, "Lillie Douglas", 549, A. R. Sire, "Fitz James", 550, A. R. Dropped first calf 27th Feb., 1881. "Modesty" 4th, 5452, A. R. Dropped 15 Nov., 1878. Dam, "Modesty," 3692, imp. A. R. Sire, "Garibaldi," 1614, imp. A. R. Dropped first calf 8 March, 1881. For premium for Heifer calves, thorough-bred Ayrshire, I enter my calf, "Roxanna 6th".

Pedigree. "Roxanna" 6th. Dropped 23d June, 1881.

Digitized by Google

Dam, "Roxanna," 1816, A. R. Sire, "Moncrieff," 2516, A. R.

For premium for 1 year old heifers, Ayrshires that have never calved, I enter my Ayrshire heifers, "Modesty 5th", and "Ruby Hebron."

Pedigree. "Modesty" 5th., 5453, A. R. Dropped 9th Nov., 1879. Dam, "Modesty", 3692, imp., A. R. Sire, "Andover," 1549. " Ruby Hebron", 5080, A. R. Dropped 10th March, 1880. Dam, "Rosa", 3143, A. R. Sire, " Hebron", 2083, A. R.

STATEMENT OF WM. A. RUSSELL.

I enter for your consideration, Holsteins under 4 yrs. old in milk. "Lady Bess", 2 yrs. old. "Siresa", 2 yrs. old.

"Lady Bess", calved May 7, 1881, is due June 1st., 1882. For the first 10 days in June, she averaged 30 lbs. of milk per day. And for the first 10 days in Sept. she averaged 20 lbs. per day.

" Siresa," calved Aug. 28, 1881; for the first 10 days in Sept. she averaged 28 lbs. of milk per day.

They go out to pasture and have green corn fodder, and 2 qts. of grain per day.

HEIFERS—SECOND CLASS.

The Committee award as follows :—

To Lawrence H. Bailey of West Newbury, for Milch Heifer, 1st premium, $12.

G. W. Duncan, Haverhill, 2d premium, $6.

J. H. Davis, No. Andover, heifer that has not calved, 1st premium, $6.

Amos Ridley, Georgetown, 2d premium, $4.

Albert Titcomb, F. P. Putnam, John Q. Evans, J. N. Rolfe. —*Committee.*

Digitized by Google

STATEMENT OF WM. A. RUSSELL.

I enter for your consideration two Grade Holstein Heifers, "Fancy" and "Nelly." "Fancy" is one-half Holstein, one-quarter Jersey, and one-quarter Durham; is 2 yrs. and 10 mos. old. Dropped her first calf Nov. 10, 1880; is due Jan. 29, 1882. She has given from Jan. 1 to Sept. 1, 5359 lbs. milk, in 242 days, an average of 22 lbs. per day.

"Nelly" is three-quarters Holstein and one-quarter Durham; 2 yrs. and 10 mos. old. Dropped her first calf April 26, 1881; is due Nov. 14, 1882. In 31 days in May she gave 1018 lbs. milk, an average of 32 3-4 lbs. per day; and in 16 days in September she gave 294 lbs., an average of 19 5-8 lbs. per day.

Their feed in winter was 4 qts. shorts and 2 qts. meal, dry hay, corn fodder, and a few roots. In summer, pasture and 2 qts. meal, and green corn fodder twice a day.

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers submit the following report, awarding premiums as follows:—

WORKING OXEN.

1st Premium to T. G. Ordway, West Newbury, $12.
2d Premium to James Reynolds, No. Andover, $10.
3d Premium to B. H. Farnum, No. Andover, $8.

WORKING STEERS.

1st Premium to Town of No. Andover, $10.
2d Premium, C. J. Peabody, Topsfield, $6.

There were six pairs of oxen that competed for the premiums. All of them worked well. We would mention a pair of cattle belonging to Wm. A. Russell, of No. Andover; well matched, good working cattle, weighing 3700 lbs.; driven by his foreman, Mr. Poor. Also, a pair of three-year old Dutch

Digitized by Google

bulls, the work of which compared well with the ox-teams. They were on exhibition only. Mr. Poor takes pride in his teams, which the training shows.

Major Ben: Perley Poore of West Newbury, exhibited a pair of short horn white Durham cattle, which he invited us to examine. They were nicely matched, good shaped cattle, seven years old, weighing 4000 lbs. We understood from his farm man that they had been fed on nothing but hay and grass. Such cattle are seldom seen without extra feed. We cannot judge of their work, as they were not taken from the pens. This stock has been bred on the well known Indian Hill farm, for many years.

Major Poore's father imported the original animals.

Edw. Kent, John A. Hoyt, D. Bradstreet.—*Committee.*

TOWN TEAMS.

The Committee on Town Teams respectfully report:

There were three entries, one of horses and two of oxen; one team of oxen did not put in appearance.

We award the team of nineteen pairs of horses of North Andover the first premium of $30.

We award the team of nineteen pairs of oxen and steers of No. Andover the first premium of $30.

A. B. Fellows, H. B. Abbott, S. Longfellow.—*Committee.*

STEERS.

The Committee on Steers respectfully submit the following report:

Of three year old steers there was but one entry, by B. W. & J. R. Farnum, of North Andover. These steers, although not remarkable for their size, were of good shape and well

Digitized by Google

broken to the yoke, and the Committee award them the first premium of $8.

There was a good exhibition of two year old steers,—five entries. Ben: Perley Poore, of West Newbury, entered a fine pair of large Durhams "for exhibition only," for which the Committee would have gladly given a premium, had they been entered for that purpose. It is often said by common farmers that it is of no use for them to take their stock to the Show, as the "fancy" farmers with their blooded stock are sure to take all the premiums; but this remark cannot apply to Mr. Poore, who generously contributes to the success of the Fair with the request that no premiums be given to his stock. Besides these steers he had several other animals on exhibition, which were a credit to the Society as well as to their owner. These animals were all of large size and in color nearly white, and reminded us of the first Cattle Show we attended when a boy, for to us one of the greatest wonders of that show was a monstrous white animal from "Indian Hill" farm, probably the ancestor of the cattle on exhibition from the same farm this year. Moses T. Stevens, of North Andover, exhibited a pair of two year olds, weighing 2450 pounds. These steers were twins, well matched and broken to the yoke, and the Committee unanimously award them the first premium of $6. The second premium of $5 we award to Byron K. Farnum, of North Andover for a pair of twin steers, which were perfectly handy either with or without the yoke. A pair of steers were shown by James Davis of East Haverhill, and we regret that there were no more premiums at our disposal, for it is seldom that so fine a pair of steers are exhibited at our Fairs without receiving a premium. These steers were also twins and weighed 1950 pounds, and in the judgment of the Committee there was but *slight* difference between them and the pair which received the second premium. We also noticed a pair of two year olds exhibited by E. F. Austin and labelled Devons. Possibly some of their remote ancestors belonged to the Devon breed, but had they not been labelled, the Com-

Digitized by Google

mittee would never have suspected the fact, for we could not trace the least resemblance to the pure Devon. They were, however, a likely pair.

There were three entries of yearlings. We award the first premium of $5 to S. & N. Longfellow, of Groveland, for a handsome pair of steers, which were so large that many persons doubted their age, and the Committee themselves were not satisfied until they examined them and found that they had not yet shed their calf teeth, which is proof that they have not seen two years. We award the second premium of $4 to J. Ralph Farnum, of North Andover, for a pair of Hereford Steers. A pair of yearlings, entered by B. W. Farnum, of North Andover, although not quite as large as those which received the premiums, showed excellent training, as they led the North Andover town team around the Fair grounds.

Of Calves there was but one entry, by R. S. Bray, of Newbury, and the Committee consider them deserving of the first premium of $4.

On the whole we consider the exhibition of steers a very creditable one, for taking into consideration the fact that there are now but few oxen used upon the farms of the county, it cannot be supposed that farmers will pay much attention to the raising and training of steers. Probably there are not a tenth part of the number of oxen upon the farms of Essex County to-day that were here a half century ago. Just fifty years ago, when the society was in its infancy, it held its fair in the town of Andover. No premiums were then offered for Town Teams, yet the farmers of that town, wishing to help out the "Cattle Show," exhibited a team of three hundred working oxen. Now a town team, even with the liberal premiums offered, scarcely exceeds a tenth part of that number and two of the members of this committee made the remark, that there was not a single yoke of oxen in the towns from which they came. Recently we saw it stated in an agricultural paper that the introduction of the mowing machine and the swivel plow was among the causes of the ox having to

Digitized by Google

give place to the horse, the editor evidently sharing the prevalent notion that the near ox cannot be taught to walk in the furrow as well as the off one. This idea is, however, an erroneous one, for cattle that will plow without a driver with a landside plow can be taught in less than a half hour to go equally well with a swivel plow, and when the near ox has once learned that it is his place to keep in the furrow in going one way of the field, he is usually surer to keep in his place than the off one would be, as it is more natural for the off ox to go where the near one leads. When the mowing machines were first used upon our farms they were clumsy affairs compared with the improved machines of the present day, and it often required the full strength of two horses to operate them, and many small farmers, who before kept but one horse, found that they were obliged to procure an extra horse in order to do their mowing by machinery; and as the farm was not large enough to keep the extra horse and the oxen, the latter had to give place to the former. Unquestionably on many farms the work can be more economically done with a team of horses than by oxen. But if the farm is large enough to need more team than a pair of horses, we should advise the keeping of oxen, for there are many kinds of work on most farms that can be done cheaper and better with oxen than with horses. And is it not a fact that since we have kept less oxen many of us have got in the habit of shunning the rough places upon the farm. There is no animal whose strength has done so much to improve the aspect of the farms of this county as the patient ox. He has helped to make smooth many rough and stony fields, and there are yet many more places where his labor is needed, and we think it is well for this society to encourage the raising and training of this useful animal as well as to encourage the raising of horses; for the steers that are raised upon the farm generally remain there for a time to do their part towards improving that farm, and thus improve the agriculture of the county, thereby promoting the cause of this society, while in the majority of

Digitized by Google

cases the colts which receive the premiums are never used upon the farm. True, the raising of steers cannot be very profitable in Essex county; our pastures are too poor and our hay finds too good a market, yet there are many farms in the county, at some distance from the cities, where the farmer must feed out all his fodder in order to keep up the fertility of his land, upon which a pair of steers for the boys to train can be raised to the age of oxen without the farmer feeling the expense as much as he would to purchase a pair of full grown cattle. The training of these steers will make excellent recreation for the boys, and tend to make them contented upon the farm. We have heard of an instance where a father gave a boy a pair of steer calves to raise who sold them when four years old for $300. This is, of course, more than can often be realized; but that good cattle *can* be raised even in Essex county is proved by the steers on exhibition by Mr. Poore, which never have been fed with anything but grass and hay. Unless, however, one has an extra breed of cattle, we think the farmer would do better to select good yearlings from the State of Maine than to raise the calves, for in this county a calf six weeks old will usually bring nearly enough to buy a yearling, and a majority of the farmers here can buy better yearling steers than they can raise, for in this county we breed too much for milking qualities to get good steers.

D. A. Carleton, Benjamin Titcomb, John M. Danforth, Rufus Kimball.—*Committee*.

STALLIONS.

The Committee on Stallions would report that they have attended to the duty assigned them. Five horses were presented to the Committee for premium. After a very careful and thorough examination of the horses in harness, the Committee were unanimous in the opinion that no one of the horses

Digitized by Google

presented was worthy of the endorsement of the Essex Agricultural Society as a stock horse.

Mr. Huse of Manchester, N. H., presented for exhibition his horse, "Almont Eclipse," which in the opinion of the Committee was a very fine specimen of a stock horse.

Wm. Cogswell, M. C. Andrews, J. Otis Winkley, Thomas Saunders.—*Committee.*

BROOD MARES.

The Committee on Brood Mares found fourteen entries; some of them were very old and past their usefulness, and some of them were very inferior animals, but all had very good colts by their side.

We award the first premium to Thomas Sanders of Haverhill for his Bay mare "Dolly," $15.

The second premium to Peter Holt, jr., of North Andover, $10.

The third premium to J. B. Nichols, of East Haverhill, $8.

C. H. Gould, O. S. Butler, W. P. Bailey, D. A. Pettingill. —*Committee.*

FAMILY HORSES.

The Committee report:—

1st premium of $15, to B. H. Farnum, of No. Andover.

2nd premium of $10, to Thos. Sanders, of Haverhill.

3rd premium of $8, to Thos. R. Osborn, of West Newbury.

Henry L. Tenney, Chas. Perley, Joseph Whitehead, M. A. Plummer.—*Committee.*

Digitized by Google

FARM AND DRAFT HORSES.

The Committee report that eight horses were entered for premium, and all performed the work well.

There were horses weighing 1200 lbs., and also those weighing from 150 to 175 lbs. less.

All these horses were used on farms. The horse that received the first premium, weighed only 1050 lbs.

We award to A. D. Ordway, of Newburyport, the first premium of $15. J. H. Butters, of Methuen, second premium of $12. Aaron Low, of Essex, third premium of $10. T. O. Wardwell, of No. Andover, fourth premium of $6.

The horses all pulled well, but were deficient in backing.

E. S. Parker, J. M. Bailey, Wm. P. Richards.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee award as follows :—

To Edward P. Perley, of Danvers, first premium of $15. Edward Adams of No. Andover, second premium of $10. Oliver Stevens, of No. Andover, third premium of $5.

Nath'l Dole, Edward Harrington, J. A. Ilsley.—*Committee.*

COLTS—FIRST CLASS.

The Committee on Colts of the First Class have awarded the premiums as follows :—

For 4 years old, Goodwin Bros., of Lawrence, first premium of $12. W. J. Dale, of No. Andover, second premium of $8. Peter Holt, Jr., of No. Andover, third premium of $5.

For 3 years old, A. P. Johnson, of Bradford, first premium of $10. D. G. Todd, of Rowley, second premium of $5.

G. A. Tapley, *Chairman.*

Digitized by Google

COLTS—SECOND CLASS.

The Committee on Colts, second class, have attended to their duties and report as follows:—

Two years old, Thomas Sanders, Haverhill, first premium, $8; Albert C. Heath, Haverhill, second premium, $5.

One year old, Romulus Jaques, West Newbury, first premium, $6; Albert C. Heath, Haverhill, second premium, $4.

S. M. Titcomb, D. D. Flanders.—*Committee.*

SWINE—FIRST CLASS.

The Committee award as follows:—

Danvers Hospital, for Boar, first premium, $10; Eben Sutton, No. Andover, second premium, 6.

Danvers Hospital, for Breeding Sow, first premium, $10; Rufus Goodwin, Haverhill, second premium, $6.

C. C. Blunt, H. C. Harnden, N. S. Harris.—*Committee.*

SWINE—SECOND CLASS.

The Committee report:

To Alfred M. Trask, Danvers, for Boar, first premium, $10; Charles H. Poor, Bradford, second premium, $6.

Alfred M. Trask, Danvers, for Breeding Sow and Pigs, first premium, $10; Chas. H. Poor, Bradford, second premium, $6.

F. St. C. Herrick, *Chairman.*

POULTRY—FIRST CLASS.

The Committee award as follows:

To George K. Hale, Haverhill, one Turkey, gratuity, $2.

E. F. Webster, Haverhill, Trio Bronze Turkeys, first premium, $2.

Digitized by Google

E. F. Webster, Haverhill, Pekin Ducks, first premium, $2.
" " " B. Cochin Fowls, " " $3.
" " " " " Chicks, " " $2.
J. Henry Hill, Amesbury, Partridge Cochins, first premium, $3.
Geo. G. Pierce, W. Newbury, Pekin Ducks, second premium, $1.
Geo. G. Pierce, W. Newbury, China Geese, first premium, $2.
" " " " Muscovy Ducks, gratuity, $1.
" " " " Bremen Geese, first premium, $2.
W. M. Ward, Peabody, L. B. Fowls, first premium, $3.
" " " L. B. Chicks, second premium, $1.
Amos D. True, Salisbury, L. B. Fowls, second premium, $1.
C. O. Putnam, Danvers, L. B. Chicks, first premium, $2.
Geo. Lunt, Georgetown, L. B. Fowls, gratuity, $1.
Story & Caswell, Beverly, B. Chicks, gratuity $2.
H. C. Fegan, Groveland, Langshans, gratuity, $2.
J. B. P. Ladd, Groveland, D. B. Chicks, first premium, $2.
Geo. G. Pierce, W. Newbury, Collection, Diploma.
Mary Bolger, Lawrence, Geese, gratuity, $1.
Geo. G. Pierce, W. Newbury, Pigeons, gratuity, $2.

JAMES O. PARKER, *Chairman.*

POULTRY—SECOND CLASS.

The Committee award as follows:—

To J. B. P. Ladd, Groveland, Houdan Chicks, first premium, $2.

L. B. Parker, Groveland, B. R. Game Fowls, first premium, $2.

L. B. Parker, Groveland, B. R. Game Chicks, first premium, $2.

E. E. Ferguson, Topsfield, B. L. Chicks, first premium, $2.
H. C. Fegan, Groveland, Silkie's, first premium, $2.
H. C. Fegan, Groveland, Langshans, Gratuity, $2.

Digitized by Google

H. C. Fegan, Groveland, Game B. Chicks, first premium, $2.

H. C. Fegan, Groveland, Game B. Fowls, second premium, $1.

W. M. Ward, Peabody, G. B. Fowls, first premium, $2.

W. M. Ward, Peabody, G. B. Chicks, second premium, $1.

F. W. Blake, Haverhill, G. B. Chicks, Gratuity, 50 cts.

Geo. S. Smith, Haverhill, P. Rock Fowls, first premium, $2.

Geo. S. Smith, Haverhill, P. Rock Chicks, first premium, $2.

JOHN SWINERTON, *Chairman.*

PLOUGHING—DOUBLE TEAMS.

The Committee on ploughing with Double Teams respectfully submit the following :—

There were four competitors for the premiums on the grounds, viz. :—

Joseph Goodrich of West Newbury to whom is awarded the first premium of $12.

To town of No. Andover and Chas. A. Butterfield, second premium, $10.

To B. H. Farnum, No. Andover, third premium, $9.

To Theron Johnson and Eben Sutton, No. Andover, fourth premium, $8.

To comment on the several efforts—Land taking first premium was as fine an exhibition of ploughing in the open work as was ever seen, still it was not perfect. Its commencements were not good ; the team should have been checked so that the plough could have gotten to work sooner and prevented that one opportunity for a Jaques or some other expert to snatch the premium.

Land taking second premium was excellently ploughed, and only failed in not quite closing the furrow, which we attribute to the plough or its adjustment.

Land taking third premium was of a quality not favorable

Digitized by Google

for good work, but the evidences of skill manifested, under other conditions, might have secured the highest award.

Land taking fourth premium, ploughing good generally—plough not adapted to its work— "buried" itself too deep—a deep dead furrow unavoidable.

To the ploughman there are certain things essential to good ploughing, which is, taking the soil up and turning it over in such a manner as to leave a level or smooth surface. To effect this, in striking out a "land" the first furrow in turning should be of less depth than the general work, it turning over the ridge more readily, and the ridge being modified thereby, (the off ox travelling on the sward facilitates this), and gradually gaining the proper depth after one or two furrows. Again, in finishing, the last furrow should be of less depth, for it relieves that most unsightly thing in ploughing—a deep, dead furrow.

To secure good ploughing a trained driver is indispensable and much harder to be obtained than a good ploughman, for while the latter has to select his plough with reference to the work and set or guage it, the lesson to guide the same is comparatively short, Not so with the driver; he has to deal with the impulses and caprices of animated nature and must have natural aptitude or inherited qualities for the business; in short he must be raised from " the seed," no improvising or grafting a good teamster on foreign stock; he must have been a " steer-boy " to skilfully manipulate the ox-goad, which for fineness of work is second only to the fiddle-bow in the hand of an expert or an Ole Bull. He must have a voice that gives no uncertain sound; he must be alert and watchful,—constant attention is imposed upon him; eternal vigilance is the price of good ploughing and the premium.

There was much interest manifested in the work. " Speed the Plough" is the song of all classes, alike of those who labor and those who do not, for by the plough their bread is assured, and speeding improvement in ploughs and ploughing brings immediate benefit to the farmer, and ultimate good to all.

NATHANIEL LITTLE, JR., *Chairman.*

Digitized by Google

PLOUGHING—SINGLE TEAMS.

The Committee on Ploughing with single teams report that there was but one entry for premiums under this class—the team of Thomas G. Ordway, of West Newbury.

The Committee award the first premium of $10 to Thomas G. Ordway, of West Newbury.

The Committee were requested to examine the work of the Casady Sulky plow, shown by Whittemore Bros., Boston, and the Sulky attachment of the Wiard plow. Both these plows performed good work, but as no premium was offered, the Committee do not attempt to decide upon the relative merits of the two machines. On smooth land they would undoubtedly do good work, but whether they are practicable for use on our rough New England farms is a matter which the Committee are not prepared to decide.

Joseph S. Howe, S. A. Merrill, Wm. F. Goodrich, S. F. Newman, Royal Day.—*Committee.*

PLOUGHING WITH TWO HORSES.

The Committee on ploughing with horses report that eleven teams were entered, and seven appeared on the ground and competed for the premiums.

The surface of the land was somewhat uneven and some of the lots were rocky, making it more difficult to determine the comparative merit of the work done, than it would have been on an even field.

By a vote of the Society this year, each ploughman was required to strike out his land, thereby making a severer test of his skill than under his old custom by which the lands were cut out prior to the exhibition.

The work generally was well done, that of Messrs. Putnam and Bray was excellent.

Digitized by Google

The Committee, after making all due allowances for the differences in the land, award the premiums as follows:—

The first premium of $12 to Ansel W. Putnam, of Danvers. Plough, "Syracuse Chilled."

The second premium of $10 to R. S. Bray, of Newbury. Plough, "Eagle."

The third premium of $8 to Asa T. Newhall, of Newburyport. Plough, "Cameron."

The fourth premium of $6 to Moses H. Poor, of West Newbury. Plough, "Hussy."

The fifth premium of $4 to Charles N. Maguire, of West Newbury.

GEO. L. HAWKES, *for the Committee.*

PLOUGHING WITH THREE OR MORE HORSES.

The Committee on ploughing with three or more horses, having attended to the duty assigned them, report that there was but one entry, that being a Four Horse team by Jeremiah Cashman, of Newburyport, and in their estimation the quality of the work done was such that they were not justified in awarding the premium offered in this class, but would recommend to the consideration of the officers that he be awarded a gratuity of $5.

A. T. Newhall, Geo. A. Butters—*for the Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee award to:—

Edward F. Perley, of Danvers, two horses, first premium, $10.

O. Stevens, No. Andover, two horses, second premium, $6.

Charles Heselton, Bradford, four oxen, first premium, $12.

Digitized by Google

Wm. A. Russell, Lawrence, two oxen and two horses, second premium, $10.

David Smith, George Clark, David A. Pettengill, John P. Foster.—*Committee.*

AGRICULTURAL IMPLEMENTS.

In behalf of the Committee on Agricultural Implements, I would report that, besides the Chairman, Messrs. Aaron Low of Essex and E. G. Dole of Salisbury were present, and passed the time from 2 to 6 P. M., on Tuesday, and from 10 to 1 on Wednesday, attending to their duties, and immediately thereafter handed in a list of their awards. The show in this department was very good, and contained samples of implements which are in popular use, and also of those being brought forward as novelties to-day.

We regretted very much not to have been able to find on exhibition the "fruit evaporator," which was entered by Henry Morrill, of West Newbury. We think that it would have attracted much interest had it been made a prominent feature. Nor could we find the "apple parer" entered by Frank E. Bartlett, of Merrimac.

The manure spreader, shown in Hanscomb Bros.', of Haverhill, exhibit, was decidedly a feature, and on the second day was shown in operation, but as its attendant did not wait for the Committee, as was agreed the previous day, we cannot speak of its work there, but are convinced that it is a valuable assistant on a large farm, or when owned jointly by several farmers.

The ensilage cutter of Whittemore Bros. seemed to highly commend itself.

Some good horse rakes, among them the "Tiger" and "Yankee," were well worthy the attention of farmers.

Mowing machines of the various kinds, most in use about here, were shown; all good, but undoubtedly some men could

Digitized by Google

handle certain machines better than others, and it is fortunate there is a good variety of good ones to choose from. Certain ones are also better suited to some localities than others.

Warrior and Victor mowers were shown by S. J. Pedler of Methuen and C. H. Fellows & Co. of Haverhill, respectively. The former exhibitor had, besides the mower, a solid collar axle fitted to Archibald wheel, for which he claims superiority.

An iron flexible harrow, with teeth of different kinds on either side was shown by Hanscomb Bros. of Haverhill. This does excellent work and is also used much in England. It should be handled thoughtfully to prevent its getting tangled, but a little care only is necessary.

The Continental horse hoe in the collection of Albert C. Hill, of Amesbury, seemed a very practicable implement, with a hiller attachment, if not too heavy from being made wholly of iron, but perhaps any such weight might keep it steadier and hold it more firmly to its work.

The "Acme" harrow, exhibited by James T. Johnson, of No. Andover, is a new thing and is worthy of a careful examination by the farmers.

A Sulky plow was shown by Whittemore Bros., which is best used with three horses abreast, is adjusted readily by the driver from his seat and can do good work.

Mr. George G. Creamer, of Hamilton, had a Sulky attachment, which is said to fit any plough and also can do good work. The former, from its higher cost would not be so near the reach of most farmers, but might be owned by some individual to let out its work to farmers.

Ruhlman's wheel hand hoe was shown by A. E. Low, of Essex, and appeared of a useful design.

As to the ploughs we can only say, from what we saw of them at work in the field, that the variety of work they could do was well done by them at the hands of the ploughmen, and would advise those who are in need of a new plough to decide in advance as to their needs and visit the ploughing matches at our Fairs to decide which plough can do their work best.

Digitized by Google

By walking along the headlands during the ploughing match you are able to see the kind of work accomplished; take the name of the plough, and inquire more into details as soon as the match is completed. None but the judges are permitted on the "lands" until after the end of the competition. This is an important and admirable feature of our Fairs.

The awards are as follows:—

Hanscom & Bros., Haverhill, collection, first premium, $15.

A. E. Hill, Merrimac, collection, second premium, $12.

C. H. Fellows, Haverhill, collection, third premium, $10.

Whittemore Bros., Boston, Ensilage Cutter, gratuity, $5.

S. Frank Ayers, Boxford, Ox Yoke, gratuity, $3.

Geo. G. Creamer, Hamilton, Plough Attachment, gratuity, $5.

J. T. Johnson, No. Andover, Harrow, &c., gratuity, $5.

J. T. Johnson, No. Andover, Manure Spreader, gratuity, $5.

A. E. Low, Essex, Small Weeder, gratuity, $2.

S. G. Pedler, Methuen, Warrior Mower, gratuity, $3.

Respectfully submitted,

FRANCIS H. APPLETON, *Chairman.*

CARRIAGES.

The Committee on Carriages report only one entry of carriages and one entry of Wheel and Axle, for which they have awarded to Elmer P. Sargent, of Merrimac, Diploma and $15 for a two-wheeled chaise and to S. J. Pedler, of Methuen, $5, for Wheel and Axle. Respectfully submitted,

Albert Sargent, David W. Low, Aaron Sawyer.—*Committee.*

DAIRY.

The Committee on Dairy submit the following report:—

There were but five specimens of Butter presented for premium, none of Cheese. They award the premiums as follows:

Digitized by Google

First premium, $10, to Mrs. B. H. Farnham, of N. Andover. Second Premium, $8, to John J. Downing, of Andover. Third premium, $6, to Abbie S. Green, of Salisbury. Fourth premium, $4, to Mrs. F. Stiles, of Middleton.

For greatest produce of milk for one year, from not less than four cows:—

To Charles J. Peabody, of Topsfield, premium, $25.

John A. Putnam, A. W. Putnam, Frank Marsh, Warren Ordway.—*Committee.*

STATEMENT OF MRS. B. H. FARNHAM.

I present for your inspection sixteen pounds of September butter made from the milk of Jersey and Grade cows. The milk is set in tin pans and the cream taken off when the milk has soured. When churned, work out the buttermilk with hands, and salt to taste. The next morning work again and weigh into pound balls, and square with boards.

STATEMENT OF J. J. DOWNING.

The five pounds of Butter entered for premium were made in the following manner:—Cream raised by the Cooley system, churned every other day in a Davis oscillating churn, time from forty-five minutes to one hour. Butter washed in churn until most of the buttermilk is removed, then taken out and balance worked out. In salting use from one-half to one ounce, according to taste of customers; delivered twice per week summer and winter. Number of cows in milk, sixteen Jerseys and Grades; feed at present, grass and Indian meal from two quarts to one peck per cow.

STATEMENT OF MRS. ALFRED GREEN.

I present five pounds of September butter made from two grade Jersey cows. Milk set in tin pans and allowed to stand from twenty-four to forty-eight hours; stir in the cream at

Digitized by Google

each skimming; when churned, worked and salted to taste and allowed to stand twenty-four hours before a second working and making into balls.

STATEMENT OF MRS. FARNHAM STILES.

I present five pounds of September butter, made from the milk of Jersey cows. The milk is strained into tin pans and after standing a sufficient time is then skimmed, and is kept in a stone jar and stirred every day, being sweet at time of churning. The butter is then washed with cold water, and salted with one ounce to the pound; after standing 24 hours it is made into lumps. In order to make *good* butter everything that comes in contact with milk, cream or butter, must be kept perfectly clean and sweet.

STATEMENT OF CHARLES J. PEABODY.

To the Committee on Dairy:

GENTLEMEN:—I make an entry under Section 3 of your department,—for the greatest production of milk on any farm, etc.

My record is from April 1, 1880, to April 1, 1881, as has in previous years been the rule of the society; this year I found by the arrangements as set forth in the book, the date is changed to Apr. 1, 1882, but as I had kept the account with reference to this entry, I submit it to your consideration.

My herd consists of six cows, three are Jersey grades, two Ayrshire, one Native—calved as follows:—

No. 1, Nov. 4, '80; dry nine weeks.
No. 2, Apr. 3, '80; was in milk 9½ months of the year.
No. 3, June, '80; dry two months previous.
No. 4, Sept. 2, '80; dry three months.
No. 5, Feb. 4, '81; dry ten weeks.
No. 6, Last calved July 18, '79; was in milk the whole year.

The manner of keeping is that common with farmers in this section of the county, consisting of good pasturing in

Digitized by Google

summer, with corn fodder in August and September. In October they go into the fields and come to winter feed sometime in November. This consists of English and Meadow hay with one feed of cornstalks cut and wet daily, with 2 quarts of cotton seed meal and 2 to 4 quarts of cob meal to each cow; by several trials I find that from 18 to 22 lbs. of hay and stalks, with the quantity of grain mentioned, are required to keep up the flow of milk and the condition of the herd. I water twice daily. The milk is sold at the door. No exchange made in herd for the year. I give the quantity of milk in monthly amounts; it is measured every day and each day's record set down. Amount of milk for

April,	1205 qts.	Oct.,	1240 qts.
May,	1195 "	Nov.,	1050 "
June,	1250 "	Dec.,	1300 "
July,	1275 "	Jan.,	1262 "
Aug.,	1150 "	Feb.,	1176 "
Sept.,	1200 "	March,	1395 "

Total, 14,698 qts. or 2449 2-3 qts. for each cow.

I try to make a uniform amount of milk the year round, and have succeeded in this better the past year than ever before. As to expense of feed, I estimate the cost of pasturing at $10 per cow; corn fodder and fall feed, $5, making $15 for the summer cost. English hay at $20, Meadow at $12, and corn stalks at $12 per ton; grain market price, making from $35 to $40 as expense of winter feed, or $50 to $55 for the year. The milk was sold at 3 cts. per quart, amounting to $73.49 per cow—excess over cost of keeping, $18.49.

SHEEP.

The Committee on Sheep submit the following report:

There were four entries for premiums: one flock of Sheep and one flock of Lambs by Charles Perley, of Boxford; one

Digitized by Google

flock of Lambs and one Buck by Eben Sutton, of North Andover.

Mr. Sutton also had on exhibition four fine Sheep, all full blood Cotswold. In the opinion of a majority of the Committee, Mr. Perley's smaller breed of sheep are better adapted to the wants of the farmers of Essex County than are the Cotswold, Mr. Corliss dissenting, and we award the following premiums:—

For the best Flock of Sheep, the first premium of $10 to Charles Perley, of Boxford.

For the best Flock of Lambs, the first premium of $5 to Charles Perley, of Boxford.

For the best Buck, the first premium of $8 to Eben Sutton, of North Andover.

The Committee most earnestly urge the farmers of Essex County to keep more sheep. There is no stock kept on the farm that will pay as large a profit as a flock of good sheep, well managed; they yield a double profit; one on their lambs and wool, another by improving the pastures. There are hundreds of acres of pasture land in Essex County that are now nearly worthless from being overgrown with bushes, briers and weeds that can be improved by keeping sheep if the right course is pursued. We have seen it stated by writers in the Agricultural Journals that a pasture that will carry ten cows through the season will carry ten sheep in addition without detriment to either cows or pasture, as they will eat that which the cows refuse. This is a mistake, for sheep will not eat either bushes, briers or weeds, when they can get good sweet grass. The pasture to be improved should be stocked wholly with sheep; put on the number that it will carry through the season by close feeding, and no more, as the changing of pastures gets them into the habit of roaming and makes continual trouble. If the lambs come early as they should, they will be sold by the time the feed begins to fail, and then the sheep can be forced to eat the bushes, briers and weeds, and will thrive upon them; and by their continual

Digitized by Google

cropping for two or three years, the briers and weeds, if not the bushes, will be exterminated and the amount of good sweet grass will be increased so that the land will be more than doubled in value. It can then be given up to the cows and another piece can be served in like manner. They are especially beneficial to Apple orchards that cannot well be cultivated. The manure they drop is the best possible fertilizer for the tree, and they eat the immature fruit as fast as it drops, thus preventing the increase of the worms that do so much damage to the fruit. Mr. T. C. Thurlow, of West Newbury, a member of our Committee, states that he has an orchard that a few years ago was run down so that it produced but little fruit and that of a poor quality. He stocked it with sheep and it has now regained its thrifty condition and bears very large crops of excellent apples.

In saying good sheep, we do not mean high priced, thoroughbred sheep, but such sheep as can be bought in the markets; do not buy the refuse of droves that are too poor to kill, for such ones are dear at any price, but select young ones that are long bodied, broad on the back and full in the breast, and well covered with wool, that when the hand is placed on the back it will feel soft and thick. This characteristic is not so much valued for the extra amount of wool they will yield as it is for denoting hardihood and thrift. Such sheep are better feeders and will pass through cold storms without injury, when thin, coarse wooled ones will nearly perish. The profit of a flock depends wholly upon its management. They do not require as warm quarters as cattle, but in moderate weather they prefer and will do better in an open shed, if it is dry, than they will in a warm, close building. Many farmers think that they will live on coarse meadow hay, orts, or anything that the cattle reject, but there is not any profit in such feeding, for a poor sheep will bring a poor lamb and will give but little milk, and the lamb cannot be fatted in season to bring the highest price.

From the time they come to the barn until they drop their lambs they should have good early cut hay or rowen without

Digitized by Google

grain or roots. They should drop their lambs by the first of Febuary. After lambing they should be fed on grain. By the time the lambs are a month old they will begin to eat meal, if placed where they can have access to it, and should have all they will eat. With such treatment until the first of May (and that is as early as there is a market for them), they will dress from thirty to thirty-five lbs. each, and will usually bring twenty-five cents per lb., making $8 per head, and six sheep will usually bring eight lambs and produce six pounds of wool per head, that will sell for two shillings per pound, making an income of $76, and they can be kept as cheap as one cow. It is stated upon good authority that the cows in Essex County will not average over six quarts of milk per day, and will average but three cents per quart, yielding an income of $65.70 per year. It will be seen that the sheep are the most profitable without taking into account the improvement of the pasture or the extra labor required by the cow. This estimate is made for small flocks of not more than fifteen; larger flocks will not usually do as well, and no allowance is made for the risk of damage by dogs.

The ravages of dogs is the principal cause of so few sheep being kept, but that cause should not and need not exist if the farmers of the State would unite in demanding of the Legislature an amendment of the Dog Law that would give us a reasonable protection. With the existing law it often costs as much to recover damage as the amount we receive. If the damage occur in January we have to wait a year before we can recover, and then if the amount of the Dog Tax in the Treasury is not enough to pay the entire damage we have to accept a percentage, and if a sheep is killed and the carcass is not found, as is often the case, we receive nothing. If the law was so amended that we should receive the full amount of actual damage on its occurrence, the farms in the back towns would soon be stocked with sheep to the benefit of the owners and the Agricultural interest.

Albert Berry, Chas. Corliss, N. W. Moody, T. C. Thurlow.—*Committee.*

Digitized by Google

BREAD, HONEY, AND CANNED FRUIT.

The Committee award as follows:—

Mrs. C. A. Alley, Wenham, Bread, first premium,	$3.00
Mrs. R. K. Parker, Groveland, Bread, second premium,	2.00
Maggie McNeice, Haverhill, Bread, third premium,	1.00
Annie McLaughlin, Haverhill, Bread, gratuity,	.50
Lizzie McLaughlin, " " "	.50
Mrs. H. E. Wales, Bradford, Bread, copy, "Birds of N. E."	
Bertha B. Bradley, Haverhill, Bread, gratuity,	1.00
Annie A. Hougan, Bradford, " "	.50
Sarah L. Bradley, Haverhill, " "	1.00
Mrs. T. W. Sargent, " " "	.50
Susie Willey, " " "	1.00
John Downer, Haverhill, Collection of Bread and Cake, gratuity,	1.00
Henry Alley, Wenham, Honey, &c., first premium,	5.00
Mrs. J. W. Littlefield, Haverhill, Canned Fruits, first premium,	2.00
Lucy A. Mason, Beverly, Canned Fruits, second premium,	2.00
Mrs. J. Henry Hill, Amesbury, Canned Fruits, gratuity,	1.00
Mrs. Jeremiah Fuller, Middleton, Pickles, premium,	2.00

A. E. Goodwin, Mrs. N. E. Ladd, Mrs. Charles Perley, Mrs. M. E. Fuller.—*Committee.*

STATEMENT OF MRS. C. A. ALLEY.

The bread I exhibit is made as follows:—

One pint of milk, one-half pint water boiled, cup of yeast, (common potato yeast used); flour (Haxall) to mould; knead one-half hour. When well risen put in pans, let rise about one hour, then bake. This makes two large loaves.

STATEMENT OF R. K. PARKER.

The bread is made from Washburne's Haxall flour, three pints, milk one pint, raised over night; kneaded about fifteen minutes in morning, then raised one hour in pans, baked one hour; is twenty-four hours old.

Digitized by Google

Yeast is made by grating four good sized potatoes, with half cup of salt, one cup of sugar, and small handful of hops steeped in three pints of boiling water ; raised by cup of yeast from previous brewing.

STATEMENT OF MAGGIE MCNEICE.

Two cups boiled milk, two table spoons shortening, two table spoons sugar, one and one-half cups water, two-thirds cake compressed yeast, one table spoon of salt.

Mix while luke warm to a thick sponge, rise until light, mould and rise again until light; then mould for the pans; rise and bake. About nine hours is required for the whole process. This quantity is sufficient for two loaves this size. Baked Monday, 4 o'clock, P. M.

PEARS.

The Committee report:—

For the best twelve specimens recommended for cultivation in Essex County :

Bartlett Pear, Z. C. Wardwell, Groveland,	$3.00
Bell Lucrative, John Lee, Haverhill,	3.00
Beurre Rose, Joseph A. Brickett, Haverhill,	3.00
" " John Lee, Haverhill, gratuity,	1.50
Beurre de Anjou, J. J. Marsh, Haverhill,	3.00
Duchesse, John O'Brien, Bradford,	3.00
Dana's Hovey, J. H. Hill, Amesbury,	3.00
Lawrence, J. O'Brien, Bradford,	3.00
Bon de Jersey, B. Brickett, Haverhill,	3.00
Maria Louise, Richard Webster, Haverhill,	3.00
Onondaga, Z. C. Wardwell, Groveland,	3.00
Paradise de Autumn, H. Alley, Wenham,	3.00
Seckel, Albert Kimball, Haverhill,	3.00
Seckel, B. F. Huntington, Amesbury, gratuity,	1.50
Sheldon, John O'Brien, Bradford,	3.00

Digitized by Google

Sheldon, J. D. Foote, gratuity,	1.50
Urbaniste, W. W. Perkins, Newbury,	3.00
Mt. Vernon, J. H. Hill, Amesbury,	3.00

For each dish of any other variety, deemed worthy by the Committee, awarded as follows:

Beurre Superfine, E. F. Curtis, Groveland,	$1.50
Beurre Hardy, Burton Flanders, Haverhill,	1.50
Bartlett, Breed of Lynn, gratuity,	1.50
Howell, C. P. Savory, Groveland, gratuity,	1.50
Vicar, John Curwin, Amesbury, gratuity,	1.50

For the best 24 specimens, T. K. Bartlett, Newburyyurt, Beurre Hardy, $6.00

For the best collection of the largest number of varieties recommended for cultivation in Essex county :—

J. H. Hill, of Amesbury, first premium,	$8.00
E. Gage, Methuen, second premium,	6.00
E. F. Webster, Haverhill, third premium,	4.00
Z. C. Wardwell, Groveland, gratuity,	3.00

W. H. B. Currier, Hayden Brown.—*Committee.*

APPLES.

The Committee find it very difficult to do justice to all the contributors to this department of the Fair, owing to the limited time they have to do their work, and the great number of plates of apples, and the great number of varieties presented to them for inspection. Every plate of fruit presented for inspection was good and worthy of a premium or a gratuity, a fact that speaks well for the apple growers of Essex County. We hardly know where to stop awarding prizes, but are compelled to do so for lack of funds.

For the best twelve specimens of the following varieties which are recommended for cultivation in Essex County, your Committee have awarded premiums of three dollars each :

T. J. King, West Newbury, Baldwins; T. J. King, West

Digitized by Google

Newbury, Hubbardston Nonsuch; T. A. Sides, Groveland, R. I. Greening; Geo. Adams, Newbury, Roxbury Russet; Geo. E. Watson, Bradford, Gravenstein; S. F. Newman, Newbury, Drap'd Or; D. Bradstreet, Topsfield, Pickman's Pippin; Charles Killam, Boxford, King of Thompkin's Co.; W. W. Perkins, Newbury, Danvers, Winter Sweet; Z. C. Wardwell, Groveland, Tolman's Sweet; S. B. George, Groveland, Hunt's Russet; W. W. Perkins, Newbury, Porter; Andrew Dodge, Beverly, Sweet Baldwin; Andrew J. Lackey, Haverhill, William's Favorite; J. Henry Hill, Amesbury, Smith's Cider.

For twelve specimens of other varieties, $1.50 each:

D. Bradstreet, Topsfield, New York Pippin; T. G. Ordway, West Newbury, Northern Spy; Thomas P. Hale, Rowley, Pippin; William J. Brown, Bradford, Crimson Bough; E. A. Emerson, Haverhill, Northern Spy; Wm. W. Perkins, Newbury, New York Pippin; J. Henry Hill, Amesbury, Washington; D. G. Todd, Rowley, Todd's Sweet; E. A. Emerson, Haverhill, Green Sweet; Thomas P. Hale, Rowley, Spitzenburg; T. K. Bartlett, Newburyport, Lawrence; T. C. Thurlow, West Newbury, Fall Pippin; John O'Brien, Bradford, William's Favorite.

T. C. Thurlow, West Newbury, 24 specimens of Baldwins, $6.00.

Wm. W. Perkins, Newbury, 26 specimens of 26 varieties, $1.50.

J. Henry Hill, of Amesbury, best collection of ten varieties, recommended for cultivation in Essex County, $8.00.

Z. C. Wardwell, Groveland, second best collection of nine varieties, recommended for cultivation in Essex County, $6.00.

Gratuities of one dollar each were awarded to John O'Brien, Bradford, Baldwins; D. G. Todd, Rowley, Hubbardston Nonsuch; Mrs. S. Stewart, Middleton, Hubbardston Nonsuch; S. F. Newman, Newbury, R. I. Greening; J. Henry Hill, Amesbury, Granite Beauty; S. F. Newman, Amesbury, Roxbury Russet; S. B. George, Groveland, Baldwin; T. K. Bart-

Digitized by Google

lett, Newburyport, Gravenstein; C. R. Anderson, West Boxford, King of Tompkin's Co.; T. G. Ordway, West Newbury, Gravenstein; D. M. Verry, Danvers, Drap d'Or; J. Henry Hill, Amesbury, King of Tompkins Co.; S. B. George, Groveland, Danvers Sweet; John O'Brien, Bradford, Golden Russet; T. C. Thurlow, West Newbury, Porter; Alfred Ordway, Bradford, R. I. Greening; Geo. Adams, Newbury, unnamed; S. P. Currier, East Haverhill, Lincoln Seedling; C. R. Anderson, West Boxford, Hubbardston Nonsuch.

Daniel Bricket, No. Haverhill, Winter Porter, Copy "Birds of New England."

D. M. Cole, West Boxford, Roxbury Russet, Copy of "Birds of New England."

Premiums awarded for best collection of Crab apples.

Geo. L. Hawkes, Lynnfield, three varieties, $5.

T. C. Thurlow, West Newbury, three varieties, $1.50.

Arthur W. Haskel, Haverhill, one plate, $1.50.

J. Henry Hill, Amesbury, $1.50.

Geo. F. Morse, $1.50.

Daniel Brickett, No. Haverhill, $1.50.

In closing their report on apples, your Committee would express the belief that apple culture should receive very much more attention from the farmers than it now does.

Apples are a healthful and nutritious food for horses, cattle and swine; and in the family, for table and culinary uses, they are almost indispensable.

It is true there are many pests that infest our orchards, and sometimes, the farmer is almost discouraged. Very often what the caterpillar and canker worm leave the apple worm destroys, and the farmer says "It is no use, I am going to cut down my orchard."

Notwithstanding these hindrances to the successful culture of the apple, we believe the apple crop is, or may be, the most profitable crop of the farm.

Joseph Howe, Esq., a former president of this Society, has taken great interest in this subject, and has recently given to

Digitized by Google

the public, through the press, a very instructive article on apple culture. We commend it to the attention of all growers of this important fruit.

Attention is now being directed to the apple worm, its origin, and the best means of destroying it; and we would suggest whether it would not be wise for this Society to offer a premium for the best essay on the apple worm and the best means of exterminating the same, without injury to the tree or fruit.

Samuel G. Sargent, Chas. P. Mighill, Luther Allen, Daniel Plummer.—*Committee.*

PEACHES, GRAPES AND ASSORTED FRUIT.

The Committee to whom was entrusted the awarding of premiums for Peaches, Grapes and Assorted fruits have attended to their duties, and have awarded the following premiums.

No. 38, C. R. Lancaster, Yellow Flesh Peach, first premium, $2.
No. 37, J. E. Stanwood, White Flesh Peach, first premium, $2.
No. 36, S. K. Griffin, Essex County Seedlings, first premium, $2.00.
No. 52, E. F. Webster, Best Collection Peaches, first premium, $3.
No. 23, T. K. Bartlett, Seedling, Gratuity, $1.
No. 11, W. F. Evans, Seedling, Gratuity, $1.
No. 28, J. Flook, Foster, Gratuity, $1.
No. 15, H. H. Foster, Early Crawford, Gratuity, $1.
No. 22, David Williamson, Seedling, Gratuity, $1.
No. 50, G. W. Gage, Assorted Fruit, first premium, $4.
No. 24, W. Bradstreet, Foster Peach, Gratuity, $1.
No. 39, John Kelso, Old Mixon Free Stone, Gratuity, $1.
No. 21, N. K. Fowler, Late Crawford, Gratuity, $1.
No. 27, C. F. Winch, Yellow Flesh, Gratuity, $1.
No. 37, J. E. Stanwood, Late Crawford, Gratuity, $1.

Digitized by Google

GRAPES.

No. 34, Charles E. Poor, Concord, first premium, $3.
No. 17, J. H. Kief, Concord, Gratuity, $1.
No. 50, G. W. Gage, Warden's Seedling, first premium, $3.
No. 43, Thomas E. Watson, Brighton, first premium, $3.
No. 44, T. A. Sides, Hartford, first premium, $3.
No. 3, R. Goodwin, Isabella, first premium, $3.
No. 3, R. Goodwin, Delaware, first premium, $3.
No. 24, Augustus Verry, Creveling, first premium, $3.
No. 50, G. W. Gage, Rogers No. 3, first premium, $3.
No. 53, F. Sargent, Israella, first premium, $3.
No. 4, Augustus Verry, Rogers 15, first premium, $3.
No. 50, G. W. Gage, Collection of Grapes, first premium, $7.
No. 42, E. G. West, Plate of Delaware and Concord, Gratuity, $1.50.
No. 33, Z. C. Wardwell, Eumeline, Gratuity, $1.
No. 5, Mrs. Isaac Harding, Seedling, Gratuity, 50 cents.
No. 4, James Leach, Lee's Early Black, Gratuity, $1.
No. 7, J. Lee, Lee's Early, Gratuity, $1.

PLUMS.

Andrew J. Lackey, Plums, Gratuity $1.
No. 18, J. W. Titcomb, Blackberries, Gratuity, $1.
G. G. Prince, Kittsaninny Blackberries, Gratuity, $1.
No. 13, G. A. Osgood, California Plums, Gratuity, 50 cents.

FLOWERS.

The Committee award as follows :—

To Geo. H. Hill, Haverhill, Floral Design ; Emma H. Gage, Methuen, Dish Cut Flowers ; do, do, Marigolds ; Andrew J. Lackey, Haverhill, do and Balsams, each prem. $2 ; Alfred Green, Salisbury, 12 Dahlias ; Mrs. L. P. Weston, Danvers, Pansies ; Mrs. M. P. Nichols, Lynn, Zinnias ; do, do, Mourning Bride; Mrs. N. E. Ladd, Groveland, Drummond Phlox ;

Digitized by Google

James L. Willey, Lynn, Lill Dahilas; Geo. O. Thurston, Mix'd Eternal Flowers; Mrs. L. P. Weston, Danvers, Everlasting do; E. N. Jaques, Haverhill, Pot Plant; Rebecca F. Carleton, Autumnal Roses, prem., $1 each; Mrs. C. N. S. Horner, Georgetown, Native Flowers, prem., $3; W. H. Spooner, Boston, Display of Nasturtions; Mrs. L. P. Weston, Danvers, best display; T. C. Thurlow, West Newbury, Display of Trees and Shrubs, prem., $4 each; Daniel Hooke, Haverhill, Cactus; E. N. Jaques, do, Hollyhock; B. M. Johnson, do, Flowering Plant; Nettie L. Webster, do, Wild Flowers; Mrs. Mary Hatch, do, Parlor Bouquets; Mrs. J. H. Hill, Amesbury, Gladioli; Mrs. M. E. Fuller, Middleton, Wild Flowers; Mrs. Charles B. Emerson, Haverhill, Amaryllis; George O. Thurston, bouquet; Mrs. J. N. Littlefield, Haverhill, Pot Plants; Mrs. L. P. Weston, Danvers, Marigold; Anna R. Dodge, Haverhill, display of Wild Flowers; A. Shirley Ladd, Groveland, do; Mrs. W. W. Currier, Bradford, Pot Plants, &c., gra., $1 each. F. Kief, Haverhill, Cacti, 26 varieties, gra., $3. E. M. McLaughlin, Haverhill, collection of Ferns and Foliage Plants, gra., "Birds of New England."

The flower exhibition of the season was an inferior one, but this is not surprising, for no part of our annual exhibition begins to suffer so much from an unpropitious season or unfavorable weather occurring near the time of exhibition as the flower department. It is within bounds to say that one stormy day occurring within a week of the day of exhibition will destroy at least one-half of the show flowers of our gardens, no matter how favorable the weather may be in the period intervening; and should a storm occur within three days of the annual exhihit, then at least nine-tenths of the show flowers will be ruined. Having to contend with both a remarkably unpropitious season and weather unfavorable just before the time for the annual exhibit, what could we reasonably anticipate in this department whose beauty and comeliness is fully equalled by its frailty?

The remarkably choice show of Nasturtiums, by Mr. Spoon-

Digitized by Google

er, a fine display of native flowers, and the tasteful setting-forth of the entire display by a background of a few fine plants, were the strong points of the flower department.

SELF-SEEDING ANNUALLY.

It is rare to find a New England woman who is not a lover of flowers, with pets of the window or the garden which are the poetry of her life, her joy and her consolation amid the hard grind of her daily round of toil. Her regret is that she has not the time, room or means at her command for a larger cultivation of these glories of the Creator. I have a great sympathy for these sisters, and never do I enjoy my own flower garden so much as when enjoying their enjoyment; for never is woman so lovely as when in the presence of beautiful flowers; she pours out her best self in a love and admiration as simple and as natural as that of a child. For the large class, who have so great a love for flowers with but limited means to gratify it, I have a few suggestions.

We can get the largest returns from our flower gardens for the labor invested by planting shrubs and perennials. These will all know when Spring has come without any thought on the part of the gardner, and with but little outlay of care will make their annual returns of blossoms with each revolving year. But let those who plan on a larger scale, but whose means are limited, invest as large a proportion of their fund devoted to flowers as possible in the self-seeding annuals. These include many of our finest flowers, among which are the Verbena, Balsam, Petunia, Sweet Alyssum, Abronia, Umbellata, Candytuft, Catchfly, Cockscomb, tall Convolvulus, Coreopsis, Escholtzia, Larkspur, Hibiscus, Ipomea, Marigolds, Mignonette, Poppy, Salphiglossis, Portulacca and Pansy. All of these can be depended upon to mature their seed every season, if planted in the open ground by the first of June, and every one of them if allowed to go to seed will show a progress of a thousand fold each year. The Aster may be added to the list, but it cannot always be depended upon to mature its seed

Digitized by Google

when planted in the open ground. This list includes the majority of the most brilliant flowers of our gardens, and when it is considered that five cents will purchase a package of seed of nearly all of these, and ten cents of the remainder, and that when once planted no further outlay will be needed for a generation; even those housewives who are driven by a hard necessity to exercise the utmost frugality, if, with a small area at command, can afford a garden for their own pleasure and the cultivation of the love of the beautiful in their growing families. There are a few facts worth noting relative to these self-seeders. 1st, That the quality of the flowers does not deteriorate when nature is allowed to sow them year after year. 2d, That these self-sown seed come up earlier, bloom earlier, and under the same conditions of room and food the plants from them are more vigorous than those raised from hand sown seed. 3d, That owing to the shallow planting required a large portion of seed planted by hand is apt to fail, not obtaining sufficient moisture at the surface to enable them to vegetate; or, if a heavy rain falls soon after planting, are liable to be washed out, or high winds prevail, the covering soil and the seed itself is likely to be blown away.

To get their best development from these self-sown plants, a caution is needed, and that with some emphasis,—*thin your plants very boldly*. Begin the thinning process when they are about an inch high. It is safe to say that not one lady in a hundred has the courage to thin her plants as liberally as is necessary to obtain their natural form and the largest and best display of the flowers; and further that what little thinning is done is done too late, leaving the plants remaining both slender and tender.

It requires a considerable degree of moral courage for our housewife when she finds her garden at mid-spring covered with numberless vigorous young plants, considering, as she involuntarily does, the possibilities wrapped up in each individual one, that it has the capacity to bear numberless beautiful flowers—to grasp them with fingers that seem wanton, and

Digitized by Google

throw them by scores to be trodden under foot. She can rarely bring herself to treat her pet so cruelly, and the result is that in almost every garden may be seen ten plants occupying the space needed for the full development of one, all crowding each other out of all shape and comeliness, and finally pushing up a few struggling terminal flowers to beg a gleam of sunlight. Accept good advice; believe in the "survival of the fittest" and thin boldly. Make three thinnings: the first when an inch in height; again when two or three inches, and finally in a week from this thin to as few as your conscience will allow, then shut your eyes and pull up at least half of what remains. Have you ever seen the normal form of our common garden flowering plants? When crowded into an area of a few square inches, none of them has liberty to reveal itself to us. Even that small plant, the Pansy, or the Portulacca, requires a square foot of room to enable it to develop the symmetry of its structure; and this word symmetry belongs to every plant of the garden; it is safe to say that every one of the hundreds of varieties found in our gardens would display the beauty of symmetry in its proportions were it allowed to develop its normal form.

A word about some peculiarities of one or two of the varieties in the list given. But few people appear to be aware of the capacity of the verbena for self-seeding and the great variety in the colors of plants thus grown. There is an impression that the colors are nearly all confined to the purple tints, and that the flower heads are not well filled out. On my own grounds which are a good loam, a little inclined to sand at the surface, with a sub-soil of hard pan, even after the land, where the verbena grew the year previous, has been ploughed, the plants will come up ten times as thick as they should be allowed to stand. In one bed I counted twenty-five different colors and shades; as many as were to be found in the bed adjoining, raised directly from seed, hand-planted the same season. The one color all verbenas raised from seed are deficient in, is scarlet, but this applies as generally to hand-planted beds as to the self-seeding.

Digitized by Google

Abronia Umbellata is a California flower, with a low running habit, in this quality and in the form of its flowers bearing a close resemblance to the verbena. It has a very delicate and delicious perfume, and being in its glory in the hottest and dryest of weather, when most of the other flowers of the garden are panting out a sickly life, it fills a place of its own.

Sweet Alyssum is unsurpassed among flowers for a wonderful vitality. Lengthening its flowering stem, it carries blossoms through the entire season; if a severe drought brings it to look in a way that would mean death in almost any other flower, be assured that as soon as rain falls it will revive and grow with its old vigor.

Three of the varieties need some looking after at seed time, viz.: Petunia, Portulacca and Hibiscus, lest in the following season a numberless progeny demonstrate the definition of a weed, viz.: "a plant out of place," for with the exception of the always to-be-excepted Ground Cherry, (*Alkekengi*), these, if allowed to seed themselves freely, may make the worst weeds of the garden.

J. J. H. Gregory, *for the Committee.*

VEGETABLES.

The Committee award as follows:—

To Perley Johnson, Boxford, best early B. T. Beet; Moses B. Abbott, Long O. Carrot; M. T. Batchelder, Peabody, Short H. do.; J. D. W. French, North Andover, Mangolds; H. A. Stiles, Middleton, Flat Turnips; M. S. Jenkins, North Andover, Ruta Baga; Albert Emerson, Haverhill, Parsnips; Charles A. Anderson, Boxford, Danvers Onions; W. W. Perkins, Newbury, Red do.; Moses B. Abbott, Savoy Cabbage; Chester Kilham, Fottler do.; M. F. Batchelder, Peabody, Flat Onion; J. D. W. French, North Andover, Stone Mason Cabbage; George K. Pierce, West Newbury, Mammoth do.; Moses B. Abbott, Red do.; Moses B. Abbott, Cauliflowers; Samuel Beattie, Bradford, Celery; Samuel Longfellow, Grove-

Digitized by Google

land, Field Corn; Aaron Low, Essex, Early Sweet do.; B. H. Farnham, North Andover, Late do.; Frank Eaton, Haverhill; Pop Corn; Moses L. Sawyer, Turban Squash; M. F. Batchelder, Peabody, Nutmeg Melon; A. P. Johnson, Bradford, Musk do.; Andrew J. Lackey, Haverhill, Water do.; H. A. Stiles, Middleton, best picked Cranberries; Premium of $3 each. Alfred Green, Salisbury, best E. R. and Beauty of H. Potatoes; Rufus Goodwin, Haverhill, Goodwin's Seedling and Ohio do.; Alfred Green, Salisbury, Dunmore and Burbank, do.; Premiums of $6 each. M. F. Batchelder, Peabody, 2d best Savoy Cabbage; Richard Webster, Haverhill, 2d best Fottler do.; A. Perley Johnson, Bradford, 2d best Mammoth Cabbage; C. R. Anderson, Boxford, 2d best Red do.; M. S. Jenkins, 2d best Cauliflower; Premiums of $2 each. Aaron Low, Essex, best Spherical Essex Hybrid and exhibitions of dish of Tomatoes; Premium of $12. Aaron Low, Essex, best collection of vegetables; premium of $8. Albert Emerson, Haverhill, best collection of vegetables; gratuity, $5. M. H. Poor, West Newbury, Potatoes; A. R. Johnson, collection, do.; Gratuities of $2 each. Frank G. Phillips, Bradford, collection do.; R. Webster, Haverhill, Peppers; C. K. Ordway, West Newbury, Field Corn; gratuities of $1 each.

COUNTERPANES, CARPETINGS AND RUGS.

The Committee award as follows:—

To Miss M. R. Nichols, Haverhill, silk counterpane, first premium, $4; C. D. Ellis, do., knit counterpane, second premium, $2; Mrs. Henry Whitman, do., drawn rug, first premium, $3; Mrs. Walter Ordway, braided rug, second premium, $2; Mrs. L. S. Charles, Bradford, counterpane, gratuity, $1; Mrs. T. Currier, Haverhill, do., gratuity, $1; Mrs. Mary B. Holt, do., do., 1; Mrs. J. P. Neally, do., do., 1; Flora S. Haines, do. do., Mrs. —— Bradley, do., do., Mrs. J. Perley, Bradford, do., Mrs. W. S. Perley, Haverhill, do.; Mrs. E.

Digitized by Google

Wasson, do., do., Mrs. J. M. Palmer, do., do., gratuity, 50 cents each, Mrs. Bodwell, do., do., Munroe Ayer, do., do., Annie H. Means, do., drawn rug, Mrs. J. H. Choate, do., do., Mrs. Henry Whitman, do., do., Mrs. C. K. Ordway, West Newbury, do., Mrs. Samuel Holmes, Haverhill, braided rug, gratuity, $1 each; Miss Judith Blaisdell, do., do., Mrs. W. Phillips, Bradford, Turkish rug, N. H. Fish, Danvers, rug, Mrs. Nathan Perley, Methuen, rug, B. S. Grace, Haverhill, rug, Mrs. Josiah B. Hale, do., drawn rug, Mrs. H. C. Crocker, do., do., Mrs. C. H. Merrill, do., braided rug, Mrs. J. M. Palmer, drawn rug, gratuity, 50 cents each.

Clara A. Hale, Mrs. H. P. Noyes.—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

Your Committee on Articles Manufactured from Leather beg leave to report:

That they have inspected the articles in that department presented for competition and show, and while the extent of the same is by no means as large and extensive as it should be, considering that this is one of the largest if not the greatest industry of our county, is now and has been scarcely represented at all in comparison to its extent, is very creditable as far as it goes.

There are engaged in this pursuit four or five times the number of your sons and daughters of those in any other of the various industries which you represent and for their good and the Farmers' information and the general progress and welfare of the county, it appears to us to be a privilege, if you should so deem it best, to hereafter place a larger amount at the disposal of the committee in this department, that those engaged in this department of labor may be more largely interested than heretofore, with others in this annual exhibition.

We have awarded as follows:—

Daniel Peters, Haverhill, for the exhibition of one set of

Digitized by Google

Coach Harnesses and two single harnesses, a gratuity of $10.

E. A. Putnam, Beverly, one set Heavy Harnesses and one single Harness,—nickle plated, of very excellent workmanship, for use designed—a gratuity of $5.

C. E. Sturgis, Haverhill, one single Harness together with case harness trimmings, gratuity of $3.

John E. Kimball, Haverhill, goods manufactured in Essex County, Diploma.

H. P. Fairbanks & Co., Haverhill, Case Boots and Shoes, general variety, gratuity, $4.

Hood & Veasey, Haverhill, Boots and Shoes, general variety, gratuity, $4.

D. L. Bartlett, Haverhill, Case Boots and Shoes, general variety, gratuity, $4.

Other exhibitions of Boots, Shoes and Leather, were presented, upon which no special mention was asked.

All of which is respectfully submitted.

Moses How, James Wilson, Chas. J. Peabody.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee award as follows:

To J. H. Brown, Lynn, combination sled, gratuity, 50 cents; S. J. Davis, Haverhill, dressing bureau, gratuity, 50 cents; Frenchmen, Haverhill, table, checkerboard, &c., gratuity, $1.50; J. Bodown, Rockport, tree protector, gratuity, 50 cents; Louis Bruce, Haverhill, chain, gratuity, 50 cents; D. J. Mahoney, do., cribbage box, gratuity, 50 cents; Mrs. Willie Berry, do., case of millinery, gratuity, $2; Carrie H. Horton, do., do., gratuity, 1; L. J. Harding, do., do., gratuity, 1; F. E. Pollard, Haverhill, case, gratuity, 2; E. Bagar, do., fancy case, gratuity, 2; John Hulford, do., cribbage boxes, gratuity, 1.50; H. N. Noyes, Georgetown, desk and table, gratuity, 1; Mrs. M. G. Clay, Haverhill, millinery, premium, 4; Stevens & Co., do., large display of flannels, &c., diploma; A. R.

Digitized by Google

Prescott, Newburyport, lightning rod, gratuity, 1; E. J. Harris, Haverhill, card table, gratuity, 1; J. Harriman, do., brackets, gratuity, 50 cts.; E. H. P. Abbott, do., manufactures, gratuity, 1; Mrs. Aaron Hoyt, do., rocking chair, gratuity, 50 cents; Wm. Sellers, do., street passing, gratuity, 1.

Haydn Brown, D. I. C. Hidden, Eben Webster.—*Committee.*

FANCY WORK AND WORKS OF ART.

The Committee award as follows:

To M. G. Bridgman, Haverhill, paintings, gratuity, $3; Mrs. H. E. Harding, do., do., do., 2; Miss Handy, Bradford, do., do., 1; Miss Carrie G. Bartlett, Haverhill, do., do., 2; Miss Carrie Moon, do., do., do., 1; Mrs. Homer Brooks, do., do., do., 2; Miss Grace H. Kimball, Bradford, do., do., 1; Miss Clara Savary, Groveland, do., do., 50 cents; C. H. P. Roney, Lynn, do. do., 50 cents; Miss Carrie T. How, Haverhill, do., do., 50 cents; Miss Hettie H. Russell, do., do., do., 50 cents; Miss Lizzie Harriman, do., do., do., 1; Miss Sorrenson, Merrimac, do., do., 50 cents; Mrs. S. A. Palmer, Haverhill, do., do., 50 cents; P. S. Pearson, Bradford, knit skirts, do., 50 cents; Nellie Allen, Haverhill, skirts, do., 50 cents; Florence Appleton, do., hood, do. 50 cents; Mrs. Mulvey, do., worsted bird, do., 50 cents; Wm. Bixby, do., case butterflies, &c., do., 1.75; Mrs. V. Moulton, Boxford, hand knitting, do., 1; Mrs. J. W. Sanborn, Haverhill, do., do., 1; M. W. Batchelder, Lynn, do., do., 50 cents; May Harding, Haverhill, pillow shams, do., 50 cents; Mrs. G. R. Bennett, do., do., do., 50 cents; May Dodge, do., hand bag, do., 50 cents; Mrs. George Savory, Groveland, toilet set, do., 50 cents; Mrs. Charles Wood, Bradford, sofa pillow, do., 1; Walter Emerson, do., do., do., 75 cents; Mattie J. Morse, do., do., do., 50 cents; May J. Twombley, Haverhill, do., cover, do., 50 cents; Lucy Caldwell, do., table cover, do., 1; Mrs.

Digitized by Google

Richardson, do., do., do., 75 cents; Lizzie Huse, Methuen, do., do., 75 cents; Mary W. Johnson, Haverhill, do., do., 50 cents; Nellie Greenleaf, Haverhill, afghan, do., 1; John Pilling, do., do., do., 50 cents; Ruby Fifield, do., do., do., 50 cents; Mrs. V. Smiley, do., tidy, do., 75 cents; Miss Richardson, do., do., do., 50 cents; Miss Mary Hoyt, Newburyport, do., do., 50 cents; Miss Carrie Reed, Haverhill, do., do., 50 cents; M. Fannie West, do., do., do., 50 cents; Mrs. James Carr, West Newbury, laces, do., 1.50; Mrs. C. Johnson, Haverhill, do., do., 2; Louisa Hopkinson, Bradford, do., do., 2; Mrs. C. Ordway, West Newbury, do., do., 1.50; Mrs. Ira Abbott, Haverhill, flannel embroidery, do., 75 cents; Mrs. Crosby, Georgetown, do., do., 75 cents; Jennie Mackie, Groveland, do., do., 50 cents; Mrs. Pillsbury, Haverhill, case of embroidery, do., 75 cents; Hattie Patch, do., hand made shawls, do., 50 cents; C. Harriman, do., do., do., 50 cents; A. J. Fox, do., knit skirts, do., 50 cents.

CHILDREN'S WORK.

The Committee award as follows:—

To Belle L. King, Bradford, Needlework, first premium, $3.

Susie G. Allen, Haverhill, Painting, second premium, $2.

Kindergarten School, Haverhill, gratuity, $2.50.

Bertie Goodrich, Haverhill, Painting; Annie G. Davis, Haverhill, Painting; gratuities of 75 cents each.

George M. Woodman, Groveland, Drawings; Wilmot L. Marden, Lynn, Patchwork; Kate M. Blunt, Haverhill, Patchwork; Florence Blunt, Haverhill, Patchwork; Edith Sargent, Haverhill, Needlework; Frank R. Page, Bradford, Needlework; Fred W. Page, Bradford, Needlework; Daisy Ladd, Haverhill, two Mottoes; Gertie M. Ordway, Haverhill, Needlework; Blanche A. Chadwick, Boxford, pair of Stockings; Maud L. Lowell, Salisbury, Crotchet Tidy; Edith M. Newman,

Digitized by Google

Haverhill, Towel Rack; Sarah S. Merrill, Haverhill, Pillow Slips; gratuities of 50 cents each.

Mrs. P. B. How, *for Committee.*

GRAIN CROPS.

The crop of corn raised by Charles W. Adams, of Newbury, was examined by the committee and found to be a fine crop for this unfavorable season, quite even and well filled out. Although the statement is not quite as full and minute as it should be, we recommend the premium of $10.

We recommend the first premium of $10 to Richard Newell, of West Newbury, for the crop of rye entered by him. His statement annexed is clear and full.

We recommend the premium of $10 to Charles W. Adams, of Newbury, for his crop of wheat, the statement being annexed.

The grass crop entered by Mr. Wm. W. Perkins, of Newbury, the committee found to be very heavy and quite even, with a little foul stuff mixed in, and therefore the quality of the hay was not as good in consequence, and also on account of wet and cloudy weather in June. We recommend the first premium of $10.

M. C. Andrews, *for the Committee.*

STATEMENT OF WILLIAM W. PERKINS.

The crop of grass which you examined in July, which I entered for premium was grown on one acre of land, cut the second week in July, weighed 6700 pounds. The second crop was cut the last of September, weighed 2110 pounds.

Thirty-five years ago the land was cleared up, being covered with a growth of alders and huckleberry bushes; at that time it was seeded down with herds grass and red top; for the first few years the crop was a fine one, since then it has been quite small, hardly paying for harvesting. The land was ploughed

Digitized by Google

in August, 1880, rolled, and ten cords of manure carted on from barn cellar, spread and harrowed with Randall harrow and brush harrow until it was made fine; one peck of herds grass and one-half bushel of red-top seed was sown; whole cost of manure and labor about 75 dollars. I have known some farmers to use more seed, as much as one bushel to the acre, of herds grass seed. My experience for more than forty years is, that one peck of herds grass and from one-half to one bushel of red-top is quite enough to the acre if the ground is in suitable order. Some farmers say that it costs twenty dollars a ton to raise English hay. I think much depends on the quality of the soil.

NEWBURY, Oct. 19, 1881.

This is to certify that I measured the land entered by Wm. W. Perkins, for premium on grass, and that it contains one acre. EDWIN P. NOYES.

I hereby certify that the above hay weighed (6700), six thousand seven hundred pounds; that the second crop weighed twenty-one hundred and ten pounds. FRANK PERKINS.

NEWBURY, Oct. 18, 1881.

STATEMENT OF CHAS. W. ADAMS.

The Wheat which I enter was raised on one acre of land. The soil is rather a heavy loam. In 1880 the land was sown to sugar beets and oats. I littered my cattle with a plenty of salt hay, and threw it out with their manure daily. I used about seven cords of this manure in a green state. In 1881, I ploughed the land the first week in May, about five inches deep, using no manure. I sowed one bushel and one peck of seed to the acre. Cost of ploughing, harrowing, and rolling, $5; cost of seed and sowing, $2; cost of cutting and harvesting, $10; cost of threshing and winnowing, $10. The wheat was weighed on Fairbank's scales. The amount was forty-one

Digitized by Google

bushels and fifty-two pounds. I can sell the wheat at $1.60 per bushel; value of wheat, $66.98. I had 4495 lbs. of straw which I sold for $14 per ton, amounting to $31.46.

Cost of ploughing, harrowing and rolling,	$5.00
Cost of seed and sowing,	2.00
Cost of cutting and harvesting,	10.00
Cost of threshing and winnowing,	10.00
	$27.00
Value of wheat,	$66.98
Value of straw,	31.46
	$98.44
Cost,	27.00
Profit,	$71.44

This certifies that I surveyed the acre of land on which the above crop was grown. PHILIP D. ADAMS.

I certify that I weighed the wheat and that it is as above stated. JACOB D. RAY.

STATEMENT OF RICHARD NEWELL.

The land on which the crop of Rye which I offer for premium was grown, was ploughed in the spring of 1880, and six cords of good barnyard manure spread on and harrowed in, and planted with potatoes on the 11th of May. Harvested the crop the first week in September; had 150 bushels of excellent potatoes and 50 bushels of small ones. As soon as the potatoes were off, I ploughed the land and sowed four hundred lbs. of Crocker's Ammoniated Bone Phosphate, and sowed to Winter Rye on the 9th of September, sowing one bushel of seed. Crop reaped and stacked July 27, 1881. Aug. 6th had the crop weighed on public scales and put in barn. Aug. 16, finished threshing and winnowing and

Digitized by Google

weighed the grain. The total weight of the crop when put in the barn was 7395 lbs. Weight of clear grain, 2523 lbs. Sept. 5th, sold and delivered to Mr. Hunkins of Haverhill 2310 lbs., and kept for seed 182 lbs., making a total of 2492 lbs., showing a loss of 28 lbs. since winnowing.

Cost of Crop.

Preparing ground,	$4.00
Seed and Sowing,	2.00
Phosphate and Sowing,	11.00
Reaping and Stacking,	8.00
Hauling to barn and weighing,	4.00
Threshing and Winnowing,	8.00
Interest on value of land,	6.00
Total,	$43.00

Value of Crop.

2493 lbs. of grain at $1.10 per bu. of 56 lbs.,	$48.95
4500 lbs. of straw (estimated) at $16 per ton,	36.00
Total,	84.95
Cost,	43.00
Profit,	$41.95

I hereby certify that the above statement is correct, and that I measured the land on which the crop grew, and that it contained one acre and one rod, and no more.

STATEMENT OF CHAS. W. ADAMS.

I make the following report of one acre of corn which I have entered for a premium. The soil is rather a heavy loam. The land was sowed to wheat in 1880 without any manure. In 1881 I ploughed it six inches deep at a cost of $2.00. Cost of harrowing, $1. I put the manure in the hills, using about three cords. It consisted of barnyard manure and thatch well rotted down. Cost of manure, $15;

Digitized by Google

cost of planting, and seed, $5; cost of cultivating, $5. The stover will more than repay the cost of harvesting and husking. I had the three rows, designated by the committee, husked and weighed. The weight of corn in the ear was five hundred and one-half pounds. Thirty-seven rows of the same length make one acre. Allowing 70 pounds in the ear to make a bushel, I had over 88 bushels to the acre of shelled corn at 80 cents per bushel, which amounts to $70.40.

Cost of ploughing,	$2.00
Cost of harrowing,	1.00
Cost of manure,	15.00
Seed and planting,	5.00
Cost of cultivating,	5.00
	28.00
Value of corn,	$70.40
Cost,	28.00
Profit,	$42.40

This certifies that I surveyed the acre of land on which the above crop was grown. PHILIP D. ADAMS.

I hereby certify that I husked and weighed the three rows of corn designated by the committee. The weight of the corn was five hundred and one-half pounds.

JACOB D. RAY.

STRAWBERRIES AND OTHER SMALL FRUITS.

The Committee on Strawberries and other small fruits report three entries of Strawberries and one of Raspberries.

We award the premium of $10 for the best crop of Strawberries, to B. F. Huntington of Amesbury.

Digitized by Google

The premium of $10, for the best crop of Raspberries, to Henry K. West, of Haverhill.

E. P. RICHARDSON, *for the Committee.*

STATEMENT OF BENJ. F. HUNTINGTON.

The crop of Strawberries which I entered for premium was raised on 147 41-100 rods of land, which in 1877 was a bound out field of grass partially covered with White Birches, Wild Cherry, Ground Hemlocks, etc., and did not yield three hundred pounds of hay on the whole piece. In 1878 I dug up the trees by the roots, broke the land and planted with corn, using Stockbridge Fertilizer, three-fourths harrowed in and one-fourth in the hill; did not get enough corn to pay for manure. In 1879, I planted with potatoes, using about four cords of manure, harrowed in and Bradley's Phosphate mixed with Plaster, half and half in each hill. Had a fair crop of potatoes. On a part of the land, forty-two bushels from one bushel planted. I mention this crop to prove that strawberries can be raised with success after a good crop of potatoes; some contend that this crop is not good for strawberries to follow, but I have always better success after potatoes than corn. In the spring of 1880 I spread 7½ cords of stable manure ploughed in, then ploughed again across the furrows; then harrowed in 100 bushels leached ashes with a Randall Harrow. I marked the rows 4½ feet apart, then furrowed two rows at a time. I set the plants about 15 inches apart in the rows. During the summer the ground was kept clear of weeds and the runners placed as near even as practicable. About the first of November, a light coat of pine needles was put on to serve as a part of covering and also as a mulch for the coming summer. The 25th of November, a good covering of salt hay, enough to cover all the plants, was spread on. In the spring the hay was taken off, and the pine needles left on as a mulch. The following is the cost of cultivation.

Digitized by Google

To 22 loads Stable Manure (of 30 bu.),	$45.00
To 100 bushels of ashes,	20.00
Preparing land and setting plants,	14.50
Cultivating, Hoeing, Weeding and placing runners,	22.00
Collecting material for covering,	8.25
Covering,	6.25
Removing covering,	2.25
Picking and Marketing at 2½,	176.52
	$294.77
Cr. by 7100 plants sold,	35.50
By 7061 boxes strawberries, at 10¼ cts.,	723.75
	$759.25
Leaving a balance of	$464.48

It will be seen that I do not charge any of the work of applying the fertilizer as I consider that the land is enough better to off-set that. Nor do I charge the crop with the plants set, as I do not credit it with the plants taken to set this year. The variety is mainly Wilson's Albany, although several other varieties were raised. I can here give the products of the different varieties.

1 bed Monarchs,	305 ft.	long,	5 ft.	wide.	Product,	204	bxs.
2 beds Col. Cheney's	204	" "	3 "	"	"	365	"
1 bed Chas. Downing's	170	" "	4 "	"	"	74	"
2 beds Crescent Seedling	204	" "	3 "	"	"	350	"
30 " Wilson's Albany	250	" "	3½ "	"	"	6068	"

This gives the Wilson's Albany	about	63	boxes	to	the	rod.
" " " Crescent Seedling	"	65½	"	"	"	"
" " " Col. Cheney's	"	68½	"	"	"	"
" " " Monarch's	"	37	"	"	"	"
" " " Chas. Downing's,	"	29½	"	"	"	"

The above account is made up from the number of rods in a bed, solid, the paths excluded. As to the varieties, I have always contended that the Wilson was far ahead of all others,

Digitized by Google

and in despite of the rust or blight, which on a part of the piece (as the Committee saw), very much damaged the crop, the product came nearly up to the Crescent. I have stated that the Col. Cheney came out ahead in product of all the others. It is a very large and handsome berry and brings from two to three cents per box more than the Wilson. The berries do not dwindle down, but hold out large to the end of the season, although the last pickings are rather soft and not so good in quality as the first pickings. The Monarchs did exceedingly well this season and were of good quality. The Chas. Downing, as has been seen, yielded the least of any, but the quality is best; but I do not see how it can pay at two to three cents per box extra. The foliage rusts very badly, while the Col. Cheney, the Crescent and Monarch are not affected. The Sharpless with me was a failure, although some report two-thirds of a crop of handsome fruit. I should recommend the Wilson, Col. Cheney and Crescent seedling for general cultivation.

This certifies that on the 21st day of July last I surveyed the above named strawberry patch, and found it to contain 147 41-100 rods of ground.

JOS. MERRILL, Surveyor.

STATEMENT OF H. K. WEST.

The crop which I offer for the Society's premium of Philadelphia Raspberries were from plants of two, four and six years growth. Land, light loam, used as a pasture previously, and covered with a growth of white birch, thorn trees, &c., which were dug out the fall before the plants were set. The land was ploughed about six inches deep; about five cords of stable manure was applied and twenty or thirty barrels of hen manure spread upon the furrow and thoroughly harrowed in. The plants were set about the latter part of April in rows eight feet apart, by three feet in the row, and with a row of strawberries between each row of raspberries. This was culti-

Digitized by Google

vated and hand-hoed three times during the season, or until the strawberry plants covered the ground.

Now comes the important part in raising a crop of raspberries, in my estimation, which consists in pruning and nipping back, at just the right time in order to get a short, compact bush, with a great many strong laterals.

To get this form I go through and nip back the young shoots to eighteen inches. This must be done about four times during the growing season; this is all the pruning I do the first season. The next spring, before the frost is out of the ground, I cut back the side branches to one foot in length. I never do any fall pruning, as I think the more brush left on the ground through the winter the better, as it helps keep the snow from blowing off, which is our best winter protection. On plants which fruited the year before I cut out the old wood, and cut back the new to one foot, early in the Spring.

After the first year the cultivation consists in keeping the land free from weeds until just before picking, when I mulch with meadow hay. Every second year I apply a shovel full of stable manure to the hill.

Of course the cost of cultivating an acre of raspberries would vary so, according to the age of the plants, that any estimate I could make, (the plants being of two, four and six years growth), would be of no practical benefit to other cultivators. The cost of cultivating the first year would be very little as we cultivate and hoe the same as for corn. But as the plants increase in age, the cost of keeping the ground clean, picking, and pruning increase.

Until at the age of five or six years I think it pays better to plough out the old plants and set out new. I should not think of putting out an acre of raspberries without taking off some other crop between the rows the first year or two, and which makes it the more difficult to get at the exact cost. The crop your Committee examined was not manured this season.

I credit the crop this year as follows:

Digitized by Google

3568 boxes at 17 cts.,		$606.56
The cost of working the crop, picking, and marketing for the present season, was as follows:		
Cultivating and hoeing,	$20.00	
Hay and mulching,	10.00	
Pruning,	12.00	
Picking and marketing, at 5 cts. per box,	178 40	
		220.40
Net profit,		$386.16

The Committee will notice that the cost of picking and marketing is just about twice as much as it would be for the same amount of strawberries.

HAVERHILL, Sept., 1881.

This certifies that I measured a piece of ground on which the above crop was raised, and found it to contain one acre and twenty-five rods. GEO. E. FARNSWORTH.

NEW VARIETY OF WINTER APPLES.

Your committee, Joseph How, John O. Brien, R. P. Waters, Aaron Low, and Paul M. Islesly were all, except Mr. Waters, present at the late exhibition at Haverhill and considered the subject of Mr. Alfred Ordway's seedling apples, the subject of which has been before the Committee for three years in view of his receiving the Society's one hundred dollar premium.

The committee were unanimous in the opinion that although the apples may be worthy of cultivation, still they are not equal to the varieties with which they are compared, viz., the Baldwin and Roxbury Russet, consequently they are not entitled to the premium.

The writer has made further inquiry about the Red Russet which has caused so much discussion, and finds much difference of opinion in regard to their value. Some persons think

Digitized by Google

them more valuable than almost any other variety; others think less favorably of them. We would therefore recommend their cultivation on different soils as they may be of more value than they are generally supposed to be.

We have also made further inquiry about the result of cross grafting and find accumulated evidence in favor of the theory.

We would therefore renewedly recommend experiments on the subject, hoping and believing that good may result from it.

JOSEPH HOW, *Chairman.*

METHUEN, Nov. 11, 1881.

TREADWELL FARM.

The lease under which the farm has been held by Mr. Thomas W. Pierce for seven years having expired on April 1st the committee made a new lease for five years to Mr. David P. Philbrick, at the rate of three hundred and fifty dollars per year with the same provisions as to the quantity of manure to be applied and general management which were in the former lease.

The Committee are pleased to report that the farm is now under better cultivation and in a better condition in every way, as they believe, than it has been since it came into the hands of the Society, with the single exception of the pastures, which are becoming somewhat foul from the spread of bushes and wood wax—which it is desirable should be eradicated. The buildings are in good condition. The annexed statement of Mr. Philbrick, of the product of the farm, shows that its capacity for crops is much larger than has generally been supposed, and places it among the best farms in the county. The experiment required by the Committee in conformity with the terms of the gift by Dr. Treadwell was in raising potatoes, and will be shown by the statement of Mr. Philbrick to have been an interesting one, which if continued on similar land

Digitized by Google

and under similar conditions next year may become an instructive one.

CHAS. P. PRESTON *for the Committee.*

STATEMENT OF MR. PHILBRICK.

Crops and Produce of the Treadwell Farm 1881, as estimated by Mr. Philbrick the lessee.

126 bbls. Apples, 206 bush. Cider Apples, 19 bush. Peas, 15 bush. Beans, 301 bush. Potatoes, 2536 lbs. Squashes, 6584 head Cabbage, 50,560 pickles, 202 boxes Strawberries, 228 bunches Asparagus, 455 bush. ears of Corn, 80 bush. Barley, 20 tons English Hay, 24 tons Meadow Hay.

Products of Pasturage,	$100 in cash.
" " Milk,	45
" " Butter,	20
	$165

Used 24 cords of Barn Manure and $140 worth of Stockbridge Fertilizer.

The following experiment in raising potatoes has been made by order of the farm committee.

The potatoes planted were all of medium size, on land of uniform condition and quality, and manured with fertilizer in a uniform manner, in five rows of 140 feet each in length, and the whole potatoes or pieces were put one foot apart in the rows.

1st row, medium sized whole potatoes,	product, 130 lbs.	large,	69 lbs.	small.		
2d row, seed ends of potatoes,	104	"	"	32	"	"
3d row, cut to 2 eyes,	123	"	"	36	"	"
4th row, cut to 1 eye,	93	"	"	28	"	"
5th row, cut in four pieces	99	"	"	29	"	"

Digitized by Google

ESSAY.

PRINCIPLES OF BREEDING DAIRY STOCK.

BY FRANCIS GULLIVER, ANDOVER.

The milking herd of the dairy-farmer is his stock in trade, and his aim is to get in this form the best machine for converting herbage and other animal food into money. How then shall the farmer increase the qualities which afford him his profits, and how shall he maintain a high degree of excellence when it is once secured ?

In answer, a fundamental precept is this—nature through the laws of heredity or breeding, and man's skill and perseverance, combine to secure the object and qualities we need. That is, selection of parents and rearing of the young exerts an over-mastering influence on the utility of the animals composing our dairy herds.

The experience of one person in search of success furnishes but few points for comparison, and it is with the expectation, not of furnishing new material, but of giving a systematic statement of points already proved in the art of breeding that this is written.

The best years of men of genius, energy, and perseverance have been given to the successful pursuit of this eminently useful and fascinating art of breeding domestic animals. As the result of their care and success, there are now established permanent types in different improved breeds of remarkable excellence, each differing from the other in the peculiar adaptation to special conditions and purposes.

Governing success in this undertaking three laws are prominent on first examination. 1st, The offspring may be of corresponding quality with its parents, called *law of similarity;* or, 2d, They may vary from either and exhibit characteristics superior or inferior, called the *law of variation;* or, 3d, The

Digitized by Google

young may resemble neither parent but revert to an ancestral type, as grand parent, &c., called the *law of reversions*, or, from Latin *atavus*, and ancestor, *atavism*.

Analysis of causes which determined the probable quality of the young animal shows seven or more powerful influences in action.

1st. The young may resemble both parents equally; 2d, Or one of the parents particularly, and the likeness may be in the same sex or the opposite. 3d, The resemblance may revert to grandparents or other ancestors,—*atavism*. This is recognized by breeders under a variety of names, as "throwing back," "crying back," "breeding back," &c., and is one of the most influential laws of heredity. It is estimated to occur at the rate of about three cases in ten. 4th, There may be collateral resemblance to uncle, aunt, &c., that is to other issue of the grandparents besides the actual parent of the individual affected. 5th, The tendency to keep the average of the sexes equal, termed *coequal heredity*. 6th, The influence of previous impregnation may appear in the resemblance of the young, not to its own sire but to the male that first had fruitful intercourse with its dam, or the one by which she last produced offspring. 7th, The influence of temporary conditions in either or both parents at the time of conception, called *initial heredity*.

To these may be added others, among them the condition and vigor of the dam during the period of pregnancy, and the care and food of the young from birth till it has arrived at an age for profit.

We need not set ourselves to originate a type, or create, or fix qualities suitable for our purpose. The materials are ready at our hand as the result of others' expenditure and toil, and from these we select.

Here appears a great obstacle to general progress—there are not enough thoroughbred animals to go around, and however much each one may wish to possess them all our dairy cows cannot be of pure blood. How, then, can the benefit be

Digitized by Google

derived from the wonderful successes of breeders up to this time.

In answer to this the unanimous reply of successful farmers is that the introduction of improved blood through the use of thoroughbred males as sires of the future members of the dairy herd is a simple, successful, wise, and economical method.

It is evident that where a particular form of animal product is the object sought, the greater value will be placed upon the animal that excels in its production. Excellence in other directions may be desirable, but it will not compensate for a deficiency in the special qualities required. Among several breeds of similar qualities your choice may be guided by considering *the adaptation to the situation* in which you will place them.

Has your soil capacity to carry large, heavy feeders,—or, if for them, an addition of more and richer food is required, would the same material produce a greater income from a smaller and more active race. In this connection it should be borne in mind that if too large animals be brought in, they not only *tend to diminish* toward the size suitable for the locality but *to deteriorate;* while if a smaller be brought in they will *enlarge and improve.*

Milk production for butter making, or for sale by measure, or for cheese making are the different objects in selecting for a dairy of one kind or another. So make your choice from the best obtainable males, the characteristics of whose breed are such as to most perfectly fill your conditions, to introduce, or if the required quality is already present, to perpetuate and perfect that quality.

In calculating the proportion of credit to which the bull is entitled a half is usually granted. In some instances it seems to be his influence *almost entirely* that moulds the characteristics of the young. Is he not then worthy a tythe of the care bestowed upon the selection and purchase of females? If a good bull doubles the value or adds only a third to the

Digitized by Google

value of twenty calves a year, but little business sagacity is requisite to discover the advantageous form of such an investment.

The power to impress his likeness and quality on the offspring is called *prepotency*, and is the assertion of strong blood of pure ancestry over mixed blood and irregular disposition of animals of indiscriminate breeding.

Form, color, habits, mental traits, or predisposition to disease may make its appearance in the offspring without having been observed in the parents. Agassiz remarked in this connection that the young are the offspring not only of the parents, but of the grandparents as well, and he might have gone further still. Goodale describes an occurrence in point. At a farm in the State of Maine where polled or hornless cattle were kept, and finally the last individual bearing the polled head was shot by mistake for a bear by Mr. Wingate, the owner of the farm. For thirty-five years all cattle owned there were horned, then there was dropped an animal which grew up polled and had all the characteristics of the original breed.

Many instances might be added to show the potency of a pure breed to assert itself. Prof. L. B. Arnold holds that the longer qualities have been possessed and transmitted the more potent are they in their transmission, and that in taxing a sire so that his own personality cannot be clearly stamped, the ancestral quality will be conferred so long as vitality is communicated, and the lower the vitality the more primitive or strongest of continuously transmitted qualities will be imparted.

To take advantage of a knowledge of Nature's methods, we must use a sire whose ancestors were all as good as he is and then whether offspring breed after their own sire or his ancestors you are equally sure of excellence.

"Grasp and render permanent, and increase as far as possible and practicable, every variation for the better and reject for breeding purposes such as show a downward tendency."

Here appears the utility of records and pedigree, for what we seek is called *a thorough-bred.*

Digitized by Google

But your success depends to some extent still on circumstances within your direction.

1st. Let the females be of such a type as to "hit off" well with your selected male and develop similar qualities, since this would apply the law that a characteristic prominent in both male and female parent will be concentrated in the young. Secure this harmonious character by judicious purchase or exchange if possible, for contrast of character produces disappointment.

2d. The male should have *prepotency* or governing influence,—that is the ability of a sire to reproduce his likeness in his offspring, or the original power of influence.

This you must look for in "high blood," and that is hand in hand with purity of pedigree.

3d. Uniform excellence of ancestors should be sought, since the quality of offspring is largely governed by the long and successful transmission of peculiar qualifications from progenitors one to another; in other words, by a concentration of fixed qualities through continued descent from those possessing high qualities.

And here the dairy farmer is exactly on the same ground as the breeder of thoroughbred stock. Each must use *the best obtainable sire* for propagation. This is the mode of improving such stock as needs improvement, and the only means by which stock already good can be preserved in its excellence.

Other points of importance space will not permit me to discuss here at length, such as fixing the heifer's habit of full and continuous flow of milk; the importance of having the heifer first come in calf, to the best bull obtainable; efforts to control the sex of expected offspring; the time of year for most profitable calving; relative influence of parents, blood being equal; hereditary disease; defective nutrition the cause of disease; stabling, care, feed; overtaxing of young bulls and killing of old ones just when their produce can prove their value; the delusive and ruinous practice of breeding for the color of the animal rather than useful qualities.

Digitized by Google

The successful breeder has a problem with numerous elements before him.

In conclusion, let me add in regard to cross bred animals or grades,—the first cross is likely to produce animals of great excellence. But do not be misled. If you then pair or breed these together you go off into the tangled maze of intermingled blood the combinations of which you cannot certainly forecast. The defects of one breed or the incongruities of both are perpetually breaking out.

It is true that close breeding and in-and-in breeding have been the method of perpetuating and intensifying the qualities of our improved breeds, and prove successful with established blood. But between grades themselves experience shows it should be scrupulously avoided.

Procure another thoroughbred sire by purchase or exchange whose excellencies shall correct and over balance defects existing in spite of your care with previous coupling. So proceed studying your females and selecting the bull so far as constantly to approach nearer the fixed model set up for yourself.

Weed out and discard for breeding uses those that fail to possess the desired points, and preserve with greatest care the true breeders of the herd.

Thus we find that the breeding of dairy stock include

1st. A man with persistence of purpose and judgment to know when he is going right and when wrong.

2d. A dairy herd so selected as to be possessed of a similarity of desirable characteristics with those sought by the breeder.

3d. The use of a prepotent sire with ancestry that all possessed the characteristics and conformation it is desired to reproduce.

4th.

What's worth good breeding
Is worth good feeding.

Digitized by Google

ESSAYS AND REPORTS.

The Committee on Essays and Farm Accounts would report that only two essays were offered for premium—one upon "Principles of Breeding Dairy Stock" and the other upon "Puerperal, or Milk Fever." Both essays were well written and expressed, and both appeared to indicate familiarity with the respective subjects. The Committee made up, as it is, chiefly of members not personally and practically having a knowledge of the topics treated, often have serious doubts of their own qualification for passing judgment upon every point necessary to the creation of a really meritorious essay. And for the same reason it is not easy for them to know how far the treatise upon a subject may be borrowed from acknowledged authorities, or be the result of actual experiment and personal knowledge. The Committee, upon the whole, acting upon the best judgment they were able to exercise, concluded to award but one premium, and that the first ($15) to Francis Gulliver, of Andover, for his essay upon the "Principles of Breeding Dairy Stock."

For reports, the Committee award the first premium of $10 to Albert Berry, of North Andover, for his report on sheep; the second of $8, to J. J. H. Gregory, of Marblehead, for his report on flowers; and the third of $6, to Daniel A. Carlton, of North Andover, for his report on steers.

Nath'l A. Horton, Daniel E. Safford, Charles P. Preston, N. M. Hawkes.—*Committee.*

Digitized by Google

Digitized by Google

Dr. EDWARD H. PAYSON, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY, Cr.

1880.		
October.	To balance of former account rendered,	$425 76
	To Bank Dividends in October,	421 35
	To State Bounty,	600 00
	To Amount of receipts at Fair in Lynn per account of Committee,	1612 80
1881		
January.	To State tax refunded on Bank Stock,	185 60
	To Proceeds of sale of $700, Essex R. R. Bonds,	728 00
	To Interest Essex R. R. Bonds,	21 20
April.	To Bank Dividends in April,	393 10
	To Amount received from new members,	126 00
	To Amount of unclaimed premiums,	79 75
		4593 56

1880.			
October.	By Amount of Premiums and Gratuities awarded by the Trustees,		$1844 75
	By Expenses of Exhibition at Lynn paid by Committee,	$1592 36	
	By Expenses of Exhibtion at Lynn paid by Treasurer,	164 42	
			1756 78
1881.			
Nov.	By General expenses for the year, viz.:—		
	Treadwell Farm,	203 58	
	Printing,	396 60	
	Secretary's account,	264.40	
	Rent to Athenæum,	25.00	
	Alley's Premiums of 1879, paid by order of Trustees	69.00	
	Miscellaneous,	14.45	
			973 03
	To Balance to new account,		19 00
			$4593 56

Digitized by Google

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1881.

		Market Value.
10 shares in Nat. Hide and Leather Bank, Boston cost,	1101 87	1150 00
5 shares in First National Bank, Danvers, par.,	375 00	500 00
16 shares in Warren National Bank, Peabody, cost,	1595 40	2400 00
8 shares in National Exchange Bank, Salem, par,	800 00	960 00
18 shares in First National Salem, cost,	1914 66	2160 00
12 shares in Mercantile National Bank, Salem, cost.	1226 50	1440 00
23 shares in Merchants' National Bank, Salem, cost,	1189 50	1495 00
15 shares in South Danvers National Bank, cost,	1471 25	2175 00
3 shares in National Revere Bank, Boston, cost,	377 62	360 00
42 shares in Asiatic National Bank, Salem cost,	1281 25	1890 00
18 shares Salem National Bank, Salem,	2000 00	2160 00
Cash on hand as above,	19 00	
	13,352 05	16,690 00
Funds reported previous year,	14,458 81	
Decrease,	1,106 76	

EDWARD H. PAYSON, Treasurer,

SALEM, Dec. 27th, 1881.

The undersigned have examined the foregoing account and find the same to be correct and properly vouched, and we have also examined the securities and find them to be correct.

JOS. H. PHIPPEN, G. L. STREETER, } Auditors.

Digitized by Google

OFFICERS OF THE SOCIETY

FOR 1881-82.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE-PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEES.

JOSEPH HOW, of Methuen.
WILLIAM SUTTON, of Peabody.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

GILBERT L. STREETER, of Salem.

Digitized by Google

TRUSTEES.

Francis R. Allen, Hamilton.
Francis H. Appleton, Peabody.
Henry Alley, Wenham.
Reuben Alley, Marblehead.
Wm. H. Allen, Manchester.
Charles C. Blunt, Andover.
Oliver S. Butler, Georgetown.
Thos. K. Bartlett, Newb'yp't.
E. G. Dole, Salisbury.
A. C. Estes, Rockport.
Benj. V. Giles, Beverly.
Chas. H. Gould, Danvers.
Geo. W. Gage, Methuen.
John J. Gould, Ipswich.
Edw'd Harrington, Groveland.
George L. Hawkes, Lynnfield.
J. Henry Hill, Amesbury.
Salmon D. Hood, Topsfield.
Samuel Hawkes, Saugus.
Thomas Hale, Rowley.
Jas. T. Johnson, No. Andover.
N. Tenney Kimball, Bradford.
Aaron Low, Essex.
Nath'l Little, Jr., Newbury.
Chas. H. Nichols, Merrimac.
E. G. Nason, West Newbury.
Chas. Perley, Boxford.
John P. Palmer, Swampscott.
Chas. W. Shattuck, Lawrence.
David Stiles, Middleton.
John L. Shorey, Lynn.
Geo. W. Wonson, Gloucester.
Horace C. Ware, Salem,
Richard Webster, Haverhill.

Digitized by Google

NEW MEMBERS—1881.

Geo. W. Adams, Newbury.
Benj. D. Appleton, Beverly.
J. K. Bancroft, Lynnfield.
L. H. Bailey, W. Newbury.
M. W. Bartlett, W. Newbury.
Lewis Brown, Peabody.
Benj. J. Berry, Lynn.
Henry N. Berry, Lynn.
George Clark, Beverly.
James Davis, Haverhill.
John Q. Evans, Salisbury.
Mrs. B. H. Farnham, N. Andover.
J. Ralph Farnham, N. Andover.
F. H. Gowen, W. Newbury.
A. C. Hill, Saugus.
Ralph C. Huse, Georgetown.
Martin L. Hoyt, Georgetown.
Peter Holt, Jr., N. Andover.
Franklin Knowlton, Hamilton.
Willard F. Kinsman, Ipswich.
N. Tenney Kimball, Bradford.
Albert H. Knight, Bradford.
Hector Little, Newburyport.
J. B. P. Ladd, Groveland.
N. Longfellow, Groveland.
T. W. Lane, Amesbury.
Fred'k S. Moseley, Newb'y't.
C. N. Maguire, W. Newbury.
Nath'l Marble, Georgetown.
Henry P. Noyes, Georgetown.
Frank Newhall, Lynnfield.
J. B. Nichols, Haverhill.
Lyman Osborn, Peabody.
Jas. O. Parker, Methuen.
Chas. H. Poor, Bradford.
S. J. Pedlar, Methuen.
Daniel S. Russell, Ipswich.
Aaron A. Rutherford, Ipswich.
Amos Ridley, Georgetown.
W. R. Roundy, Lynnfield.
Jacob C. Rogers, Peabody.
Oliver Stevens, N. Andover.
Geo. S. Smith, Haverhill.
Seth Stockbridge, Rowley.
Mrs. L. P. Weston, Danvers.
Robert C. Ware, Marblehead.

Digitized by Google

LIST OF PREMIUMS.

FAT CATTLE.

Joseph Newell, West Newbury, Fat Cattle, 1st premium,	$12 00
S. & N. Longfellow, Groveland, Steers, 2d premium,	10 00
Thos. G. Ordway, West Newbury, Cattle, 3d premium,	6 00

BULLS.

Eben Sutton, No. Andover, Short Horn Bull, 1st premium,	10 00
C. S. Bradley, West Newbury, Shorn Horn Bull, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein with five of his stock, 1st premium,	15 00
Wm. A. Russell, Lawrence, Holstein, 3 years old, 1st premium,	10 00
Richard Newell, W. Newbury, Jersey 2 years old, 1st premium,	10 00
G. W. Russell, Lawrence, Jersey 2 years old, 2d premium,	6 00
C. S. Bradley, W. Newbury, Jersey under 2 yrs. old, 2d premium,	4 00
J. D. W. French, No. Andover, Ayrshire under 2 years old, 1st premium,	6 00

MILCH COWS.

Wm. A. Russell, Lawrence, Milch Cow, special premium,	25 00
H. G. Herrick, Lawrence, Milch Cow of any breed, 1st premium,	12 00
John M. Barry, Haverhill, do., do., 2d premium,	6 00
J. D. W. French, No. Andover, do., Thorough-bred Ayrshire, "Nina Lyman," 1st premium,	12 00
J. D. W. French, No. Andover, do. do., "Roxana," 2d premium,	6 00
Wm. A. Russell, Lawrence, do. do., Holstein, "Maud Clay," 1st premium,	12 00
Wm. A. Russell, Lawrence, do. do., do., "Maid Fairfax," 2d premium,	6 00
Wm. A. Russell, Lawrence, do., grade, "Bessie," 1st premium,	12 00
Nathan Priest, Haverhill, do. do., 2d premium,	6 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, 1st premium,	$18 00
C. S. Bradley, West Newbury, gratuity,	12 00
Thomas Sanders, Haverhill, 3d premium,	10 00

Digitized by Google

HEIFERS, FIRST CLASS.

J. D. W. French, No. Andover, Ayrshire (Milch), "Jennie Douglass," 1st premium,	12 00
J. D. W. French, No. Andover, do., do., "Modesty 4th," 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein, do., "Lady Bess" 1st premium,	12 00
Wm. A. Russell, Lawrence, do., do., "Siresa," 2d premium,	6 00
J. D. W. French, No. Andover, Ayrshire yearling, "Modesty 5th," 1st premium,	6 00
J. D. W. French, No. Andover, do. do., "Ruby Hebron," 2d premium,	5 00
J. D. W. French, North Andover, do., calf, 1st premium,	5 00
Richard Newell, West Newbury, Jersey Heifer, 1st premium,	6 00
Richard Newell, West Newbury, Jersey Heifer, 2d premium,	4 00
C. S. Bradley, West Newbury, Short Horn, 1st premium,	6 00
C. S. Bradley, West Newbury, Short Horn, 2d premium,	4 00
C. S. Bradley, West Newbury, do. calf, 1st premium,	5 00
C. S. Bradley, West Newbury, do., 2d premium,	3 00
Wm. A. Russell, Lawrence, Holstein Yearling, 1st premium,	6 00
Wm. A. Russell, Lawrence, Holstein Yearling, 2d premium,	4 00
Wm. A. Russell, Lawrence, Calf, 1st premium,	5 00
Wm. A. Russell, Lawrence, Calf, 2d premium,	3 00
Amos Ridley, Georgetown, Heifer 2 years old, 1st premium,	6 00

HEIFERS, SECOND CLASS.

L. H. Bailey, West Newbury, Milch Heifer, 1st premium,	12 00
G. W. Duncan, Haverhill, Milch Heifer, 2d premium,	6 00
J. H. Davis, N. Andover, Heifer over 1 yr., not calved, 1st premium,	6 00
Amos Ridley, Georgetown, do., 2d premium,	4 00

WORKING OXEN AND STEERS.

T. G. Ordway, West Newbury, oxen, 1st premium,	12 00
James Reynolds, No. Andover, oxen, 2d premium,	10 00
B. H. Farnum, North Andover, oxen, 3d premium,	8 00
Town of No. Andover, steers, 1st premium,	10 00
Chas. J. Peabody, Topsfield, steers, 2d premium,	6 00

TOWN TEAMS.

Town Team of No. Andover, 19 pairs of horses, 1st premium,	30 00
Town Team of No. Andover, 19 pairs of oxen, 1st premium,	30 00

Digitized by Google

STEERS.

Benj. & Ralph Farnum, North Andover, 3 year old steers, 1st premium,	8 00
Moses T. Stevens, No. Andover, 2 year old steers, 1st premium,	6 00
Byron Farnum, No. Andover, 2 year old steers, 2d premium,	5 00
S. & N. Longfellow, Groveland, yearling steers, 1st premium,	5 00
J. Ralph Farnum, No. Andover, yearling steers, 2d premium,	4 00
R. S. Bray, Newbury, steer calves, 1st premium,	4 00

BROOD MARES.

Thomas Sanders, Haverhill, 1st premium,	15 00
Peter Holt, Jr., No. Andover, 2d premium,	10 00
J. B. Nichols, Haverhill, 3d premium,	8 00

FAMILY HORSES.

B. H. Farnum, No. Andover, 1st premium,	15 00
Thomas Sanders, Haverhill, 2d premium,	10 00
Thomas R. Osborn, West Newbury, 3d premium,	8 00

FARM AND DRAFT HORSES.

A. D. Ordway, Newburyport, 1st premium,	15 00
J. H. Butters, Methuen, 2d premium,	12 00
Aaron Low, Essex, 3d premium,	10 00
T. O. Wardwell, No. Andover, 4th premium,	6 00

PAIRS OF DRAFT HORSES.

Edward P. Perley, Danvers, 1st premium,	15 00
Edward Adams, No. Andover, 2d premium,	10 00
Oliver Stevens, No. Andover, 3d premium,	5 00

COLTS, FIRST CLASS.

Goodwin Bros., Lawrence, 4 year old, 1st premium,	12 00
Wm. J. Dale, Jr., No. Andover, 4 year old, 2d premium,	8 00
Peter Holt, Jr., No. Andover, 4 year old, 3d premium,	5 00
A. P. Johnson, Bradford, 3 year old, 1st premium,	10 00
Dan'l. G. Todd, Rowley, 3 year old, 2d premium,	5 00

COLTS, SECOND CLASS.

Thomas Sanders, Haverhill, 2 year old, 1st premium,	8 00
Albert C. Heath, Haverhill, 2 year old, 2d premium,	5 00
Romulus Jaques, West Newbury, yearling, 1st premium,	6 00
Albert C. Heath, Haverhill, yearling, 2d premium,	4 00

Digitized by Google

SWINE, FIRST CLASS.

Danvers Lunatic Hospital, by S. S. Pratt, boar, 1st premium,	10 00
Eben Sutton, No. Andover, boar, 2d, premium,	6 00
Danvers Lunatic Hospital, breeding sow, 1st premium,	10 00
Rufus Goodwin, Haverhill, breeding sow, 2d premium,	6 00

SWINE, SECOND CLASS.

Alfred M. Trask, Danvers, boar, 1st premium,	10 00
Chas. H. Poor, Bradford, boar, 2d premium,	6 00
Alfred M. Trask, Danvers, breeding sow, 1st premium,	10 00
Chas. H. Poor, Bradford, breeding sow, 2d premium,	6 00
Alfred M. Trask, Danvers, weaned pigs, 1st premium,	10 00

SHEEP.

Eben Sutton, No. Andover, buck, 1st premium,	8 00
Charles Perley, Boxford, flock of ewes, 1st premium,	10 00
Charles Perley, Boxford, flock of lambs, 1st premium,	4 00

PLOUGHING, DOUBLE TEAMS.

Joseph Goodrich, West Newbury, 1st premium,	12 00
Charles A. Butterfield, No. Andover, 2d premium,	10 00
B. H. Farnum, No. Andover, 3d premium,	9 00
Theron Johnson, and Eben Sutton, No. Andover, 4th premium,	8 00

PLOUGHING, SINGLE TEAMS.

Thomas G. Ordway, West Newbury, 1st premium,	10 00

PLOUGHING WITH TWO HORSES.

Ansel W. Putnam, Danvers, 1st premium,	12 00
R. S. Bray, Newbury, 2d premium,	10 00
Asa T. Newhall, Newburyport, 3d premium,	8 00
Moses H. Poor, West Newbury, 4th premium,	6 00
Chas. N. Maguire, West Newbury, 5th premium,	4 00

PLOUGHIHG WITH THREE OR MORE HORSES.

Jeremiah Cashman, Newburyport, Gratuity	5 00

PLOUGHING WITH SWIVEL PLOUGH.

Edward P. Perley, Danvers, horses, 1st premium,	10 00
Oliver Stevens, No. Andover, horses, 2d premium,	9 00
Chas. Haseltine, Bradford, oxen, 1st premium,	12 00
Wm. A. Russell, No. Andover, oxen, 2d premium,	10 00

Digitized by Google

GRAIN CROPS.

Chas. W. Adams, Newbury, corn crop, 1st premium,	10 00
Chas. W. Adams, Newbury, wheat crop, 1st premium,	10 00
Richard Newell, West Newbury, rye crop, 1st premium,	10 00
Wm. W. Perkins, Newbury, grass crop, 1st premium,	10 00
B. F. Huntington, Amesbury, strawberrry crop, 1st premium,	10 00
Henry K. West, Haverhill, raspberry crop, 1st premium,	10 00
Albert Berry, No. Andover, report on Sheep, 1st premium,	10 00
J. J. H. Gregory, Marblehead, report on Flowers, 2d premium,	8 00
Daniel A. Carlton, N. Andover, report on Steers, 3d premium,	6 00
Francis Gulliver, Andover, Essay on Breeding Dairy Stock, 1st premium,	15 00
Awarded by Committee on Poultry,	59 50
" " " Agricultural Implements,	60 00
" " " Carriages,	20 00
" " " Butter and Milk,	53 00
" " " Bread, Honey, &c.,	24 00
" " " Fruit,	273 00
" " " Flowers,	48 00
" " " Vegetables,	138 00
" " " Counterpanes, &c.,	29 50
" " " Articles manufact'd from Leather,	30 00
" " " Manufactures and Merchandise,	23 50
" " " Fancy Work, &c.,	47 00
" " " Children's Work,	15 50
	$1852 52

Digitized by Google

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,	$132 00	

FARM STOCK.

Amount awarded to Fat Cattle,	28 00	
" " Bulls,	67 00	
" " Milch Cows,	97 00	
" " Herd of Milch Cows,	40 00	
" " Heifers,	132 00	
" " Working Oxen,	46 00	
" " Town Teams,	60 00	
" " Steers,	32 00	
" " Horses,	139 00	
" " Colts,	63 00	
" " Swine,	74 00	
" " Sheep,	22 00	
" " Poultry,	59 50	
		$859 50

FARM PRODUCTS.

Amount awarded to Grain Crops,	40 00	
" " Dairy,	53 00	
" " Bread, etc.,	24 00	
" " Fruits,	273 00	
" " Flowers,	48 00	
" " Vegetables,	138 00	
" " Small Fruits,	20 00	
		596 00
All other objects,		264 50
Total,		$1852 00

Digitized by Google

CONTENTS.

	Page.
Address of Dr. James R. Nichols,	5
The Exhibition,	33
Report on Fat Cattle,	33
" Bulls,	34
" Milch Cows,	35
" Herd of Milch Cows,	41
" Heifers,	44
" Working Oxen and Steers,	48
" Town Teams,	49
" Steers,	49
" Stallions,	53
" Brood Mares,	54
" Family Horses,	54
" Farm and Draft Horses,	55
" Pairs of Draft Horses,	55
" Colts,	55
" Swine,	56
" Poultry,	57
" Ploughing,	60
" Agricultural Implements,	62
" Carriages,	64
" Dairy,	64
" Sheep,	67
" Bread and Honey,	71
" Pears,	72
" Apples,	73
" Peaches, Grapes, and Assorted Fruits,	76
" Flowers,	77
" Vegetables,	82

Digitized by Google

Report on Counterpanes, Carpetings and Rugs, ... 83
" Leather, ... 84
" Manufactures and General Merchandise, . . . 85
" Fancy Work and Works of Art, ... 86
" Children's Work, ... 87
" Grain Crops, ... 88
" Strawberries and other Small Fruits, ... 92
" Treadwell Farm, ... 98
Essay—Principles of Breeding Dairy Stock, ... 100
Report of Committee on Essays and Reports, . . . 106
Treasurer's Report, ... 108
Officers and New Members, ... 119
List of Premiums, ... 113
Recapitulation, ... 118

Digitized by Google

Digitized by Google

Digitized by Google

Compliments of Francis H. Appleton
D.M. (Hon.) Class 69

TRANSACTIONS

OF THE

ESSEX AGRICULTURAL SOCIETY,

IN MASSACHUSETTS,

HARVARD COLLEGE LIBRARY

FOR THE YEAR 1882,

WITH THE

SIXTIETH ANNUAL ADDRESS,

BY

FRANCIS H. APPLETON,

OF PEABODY.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.,
OBSERVER STEAM PRINTING ESTABLISHMENT.
1883.

45/2.74
Sci 1635.9.5

Digitized by Google

Digitized by Google

TRANSACTIONS

OF THE

Essex Agricultural Society,

IN MASSACHUSETTS,

FOR THE YEAR 1882,

WITH THE

SIXTIETH ANNUAL ADDRESS,

BY

FRANCIS H. APPLETON,

OF PEABODY.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.,

OBSERVER STEAM PRINTING ESTABLISHMENT.

1882.

Digitized by Google

1883. May 21.
Gift of
Francis [illegible] Appleton,
of Boston.

Digitized by Google

AN ADDRESS

BY

FRANCIS H. APPLETON,

OF PEABODY,

DELIVERED BEFORE THE

ESSEX AGRICULTURAL SOCIETY,

AT HAVERHILL,

WEDNESDAY, SEPTEMBER 27, 1882.

Digitized by Google

Digitized by Google

ADDRESS.

Mr. President and Members of the Essex Agricultural Society:—

Our Board of Trustees having invited me to address you to-day, I have chosen subjects which relate to what I deem of value to ourselves as farmers, and to the welfare of this Society, which has served us faithfully for many years, and have realized fully the honor that is conferred upon me, in being allowed to address a representative body from all parts of the county, owners of the foundation land upon which all other industries must rest and depend. While this is the sixtieth annual address, our present show is the sixty-second. Previous shows have been held at the following places, as nearly as I can ascertain :—

Ten times at Danvers, seven at Lawrence, six each, at Lynn, Topsfield, and Haverhill, five at Georgetown, four each, at Gloucester and Newburyport, three each at Andover, Ipswich and Salem, two at South Danvers (now Peabody), one at Newbury, and as to two, I am in doubt.

LABOR.

There is one point that I would briefly refer to and of which we must ever be mindful, namely:—that an all important part of the basis of farming is honorable and healthful labor, and unless the farmer, or his foreman, is capable of doing any and all such work that may be required in the conduct of his farm-

Digitized by Google

ing operations, these will surely fall far short of that success which is possible and desired. And again, that the more intelligence that is put into manual labor, either in its direction, or in its performance, so much more will be accomplished, and with a decreasing proportion of exhaustion to the muscles.

In extensive farming operations, where much work is done, and many workmen employed, the head farmer, while he must have had full experience as a farm worker and understand its requirements fully, has little opportunity to do more than observe and direct the whole, from the first preparation until the consumption, or sale, of the crops. Such experience is necessary also to enable him to deal justly by his help and expect all, but no more, than is reasonably possible of a faithful worker, while he urges on the more tardy.

A great trouble that farmers have to contendwith, and one which is greater than it at first seems, is that labor cannot be easily secured by the day for a part of the season. There are times when we should like extra help for a few weeks during periods of planting and harvesting, and when it would be greatly to our advantage could we hasten such work by securing more extra labor than our localities often can supply. Our planting is the better in proportion to the quickness with which we can get our crops into the ground, from the time of first stirring it to the time of getting the seed covered.

It is not good economy to direct too few men at any one time. It would be best to complete the planting and harvesting as quickly as possible with extra help and not let it drag along; and consume the intervening time in tilling and tending the crops, and making improvements with the regular force on the farm. Would it not be advisable on the score of health for men, whose regular employment is not on the farm, but in its

Digitized by Google

neighborhood, to endeavor to make such arrangements that they can devote themselves to out-door work at the season when farmers need the extra help I have named; and could not such be arranged between employer and employed in the localities referred to.

The ability to organize and direct a considerable number of men is one of the most valuable acquisitions that an individual can have, and he who posseses it should use it to his profit on his farm by employing as many men as shall tax its resources to their full extent. Under such circumstances and where enough extra farm help cannot be had as has been suggested, the better class of agricultural farm laborers landing upon our shores, if secured before the desire to "go west" has taken too deep a hold, must certainly be capable of affording us valuable aid in promoting our farming business. This course would be far from good advice when labor can be found within reach of our homes, capable and ready to fill our requirements.

The reason that I so early refer to this subject grows out of the importance that I would place upon it. The false ideas that get possession of the minds of too many persons, both men and women, upon the subject of labor is most unfortunate. I suppose it grows out of the fact that in certain foreign countries those who do perform most of the labor form a class by themselves and are there doomed, with their descendants, to continue laborers through successive generations because it is the plan of their governments to confine their education to a low level. This foreign class emigrate largely to this country to reap the benefits of our liberal, christian system of government and education. The example of this element in our community and a wish not to be like them combined with some course of imperfect reasoning,—must be why labor is foolishly regarded by some people as beneath them.

Digitized by Google

Not only this, but to secure the most healthful condition of either body or mind as far as is possible neither should be developed independently of the other. Many parents seem to be over-ambitious in educating their children, so that when they are grown up they find themselves unsuited to the positions they are called upon to fill. Dissatisfaction and an unwillingness, or inability, to turn their hand readily to simple work, is too often the result.

Exercise is a necessary part of education and learning as well as being necessary to preserve the health of all those persons, whose occupations are of a more sedentary character. What better place than the farm to secure it.

But fortunately it is not in labor alone that we see the work of our farms accomplished, for our great support is in the most approved labor-saving, labor-economizing, machinery in its most practical form; but none of this machinery is entirely automatic, it can never dispense with labor, but it increases the demand for *intelligent* labor. It greatly relieves the fatigue of body, and elevates the farmer as a man, and tends towards improving the mind,by leading him to a consideration of the many mechanical principles involved in the construction and working of his implements, as well as compelling a more thoughtful consideration as to the courses of cultivation, and care of animals and crops.

PRACTICAL EXPERIENCE.

During the time that I have been a farmer it has been my aim, with partial success, to avoid the extravagances that frequently give the name of "fancy-farmer," but which seem to be an unavoidable part of the line of experience that is the lot of those who have not passed their student days on the farm.

Digitized by Google

But it is not infrequently that these too-dearly-bought experiences have some instructive value, which at times can be placed under the head of useful experiments. Those living near the " fancy-farmer, " can often derive many ideas that prove of value, although the piece of work which originated them may have been an extravagance. He is generally ready to give his experience to the public, and to let them have the chance of profiting by them.

Would that more of the thorough farmers of our county could be induced to take up their pens and put on paper their valuable experiences, and some of what can be called gilt-edged knowledge, for the benefit and enlightenment of the public, through the medium of our Transactions.

I am sure that much remains unwritten and which lies hidden in the brains of those whose lives have been given up to experience and observation on the farm, that ought to be recorded for our general use, instruction and advancement, and which would thus add to that store of book-learning, which everyone now recognizes as a great help in our direction and planning of farm work. For those who do not care to write of their own experiences we herein have a pleasant and most interesting work for the younger members of the farmer's family, whose capability for such is the result of their work at school. Let them join with their father, who does not care to be a writer but will encourage his children in so doing, in pleasant intercourse to accomplish the results I have suggested, in their hours of rest and quiet. Let them make written notes of their Father's reminiscences, enlarged as their interest leads them to make enquiries, and select whatever their liberal judgment tells them will be of general value for practical use, or historical record. They must remember that facts, which

Digitized by Google

may result in the ordinary course of *their* lives and which seem at first of no value to others, might by a thoughtful perusal as to the circumstances attending their creation, be shown to afford subjects for a number of interesting and useful Essays or Reports. Would that this suggestion might be an inducement to more numerous members, selected as chairmen of our Committees, to write Reports for our annual Transactions upon the subjects committed to their charge, as well as to enter the lists as competitors for Essay prizes, letting a patriotic love for our Society spur them to make an effort in this direction, if such is necessary.

FARMERS' TRIALS.

While remembering the many attractions of country life during the several months of the year and the bountiful gifts that Mother earth yields to us, we are reminded of some of the trials that beset us in our lives, and vocation, as farmers, and as prominently as anything, perhaps, are our excessive droughts during parts of July and August. With the best preparation, manuring and care in our management, we are doomed to much and in some cases almost total loss, from this great evil, and the hardships it forces upon the farmer are indeed cause for depression of spirits, were not the farmers' temperaments generally such as to lead them to hope for better results the next year.

Seasons of drought, we are told, encourage the increase of insects injurious to vegetation, and this should be reduced to the least possible limit that we, with the help of intelligence and information, can effect. Can we prevent a naturally moist soil from becoming a dry one, can we conduct water on to our lands to help us. Can not farmers adopt the prevailing am-

Digitized by Google

bition of city people for a water supply in a *cheaper way* on our lands that have natural or artificial drainage for use in irrigating our crops? And in this line I propose to ask your attention; but first reminding you of that far-reaching and lasting remedy now urged by nation, state and individuals, namely the promotion, and increasing, of our forests, all over the country, as the preservers and increasers of all the present water-supplies, which are to-day, and must for all future time be looked to as the sources for domestic, mechanical, fire and farming purposes. The forest is the home of our springs, be they on the more distant mountains or hills, or on the lower land. Herein we see sufficient reason for doing all that is possible to encourage every effort to build up a forest industry which is capable of giving an increased field for the profitable employment of intelligent labor.

IRRIGATION.

I have long thought that the subject of irrigation was one which deserved the thoughtful consideration of our farmers, and some may smile, thinking of the large burdens of debt weighing upon many cities from the introduction of water-works. But do not let this frighten you.

Let me tell you the opinions of Captain John B. Moore, of Concord, upon this subject in his words taken from a discussion at the Massachusetts Horticultural Society's rooms, in Boston, and let me add that Mr. Moore raises successfully almost everything he undertakes. He said that he had studied the subject carefully, and if there was anything that he was proud of, it was his success in irrigation and drainage. "The natural way of watering is by rain, and no one has yet improved on it. He had used water for artificial irrigation for two

Digitized by Google

or three years, and by means of it had made light, sandy loam productive, and succeeded in raising pears where he supposed it was impossible to grow them. Now that he has got water he needs manure. It is injurious to apply water in large quantities without drainage." (Many uplands are naturally drained sufficiently.) Referring to a crop of peas he says "they must have plenty of manure as well as water. He did not think it would pay to use water at the rate of twenty-five cents for a thousand gallons. He gets his supply from the Concord water-works, which have a hundred feet head. The Water Board can furnish water at low rates, and are ready to make liberal terms." "He did not believe it would pay to use water through a meter." The water-works in Arlington and Winchester are also drawn upon for purposes of irrigation.

I am led to refer to this subject as drought seems to me to be one of the worst, if not the worst, enemy, that we New Englanders, and others, have to contend with. Where our crops are not almost killed by drought, they are diminished so greatly according to location, that our loss is everywhere, but only in a varying degree. After having passed much time in maturing our plans for the season's work; after having given much time, labor and money to preparing our manure heaps, adapted to the requirements of our different crops, and have prepared, planted and cultivated the latter, is it not truly discouraging, indeed is it not truly a sad sight to see the results being burned up, or very greatly diminished, by excessive droughts?

Fortunately the farmer is not so easily discouraged, as one might infer from my picture; and the knowledge of the many blessings that the farm affords, with its independent, yet responsible life, tide over all disappointments as to small crops,

Digitized by Google

with hope for the future. But if the water supply can be had and labor, to irrigate, *that* will undoubtedly be the means of saving and increasing the quantity of our crops, and the dollars in our pockets ; and I believe that the physical labor on such a farm would be somewhat lessened to the owners, while intelligence would be more in demand.

Drought is what stops all beneficial effects from a good and pure fertilizer, and puts it under such circumstances on a par with a poor article, because it cannot be absorbed by the plant unless held in solution, and because it must have moisture to hold it in solution. In seasons of drought a good and pure fertilizer must fail to meet the needs of farmers, but with irrigation or in a favorable season both barnyard manure and fertilizer serve us to the extent of their capabilities. Such difficulties and uncertainties as these, place doubt in the farmer's mind as to the words of truth received from the chemist, without whose knowledge and investigation we could not progress.

We need water, and to have our work so arranged as to cover the least possible ground; we are too generally spreading our manure and labor too thinly over our land; or have not a sufficient amount of manure for the land under cultivation. With irrigation we could use a large quantity of pure fertilizers profitably, and thus better supplement our manure heap. Would it not be wiser to make one's principles of farming conform more to the general rules applied to market gardening; so far at least as aiming to increase the amount of the crops per acre by manuring more heavily, planting more thickly and tending more carefully. And let me be understood as including fruit, on tree or bush, under the head of crops.

The farmers of Arlington and Concord, I understand, were among the first and the most desirous in their respective

Digitized by Google

towns, to seek the introduction of a water-supply, because they saw the increased profits from their land in its future use. Mr. Moore's words which I have quoted are proof of the realization of their hopes.

I believe that on many farms a few acres could be profitably treated by irrigation, using wind-mill power, if not steam, laying 1 1-2 in. or 1 1-4 in. pipe judiciously under ground and having faucets for 1 1-4 hose placed over the land at proper intervals. This land to be used more as a market-garden, with heavy manuring, careful and intelligent culture, and certainty of large yields, letting the remainder of the farm be cultivated in the best manner possible without such works. A visit to the gardens of Arlington and Concord would be valuable and interesting. I find the following facts stated in a recent number of the *Salem Gazette*, and taken from the *Newburyport Herald*:

"A truck farm in Merrimac, has, to a large extent, escaped loss from the long drought by the running of an iron pipe from the river, a distance of about a mile and a half, into which water is forced by a steam pump, and distributed over the premises by sprinklers, supplied in all directions. This precaution against a loss of growing crops by drought has been very largely successful, amply repaying the outlay. The apparatus will be on hand for future use when required."

It can be borne in mind that where several farmers might decide to unite in introducing a small water supply for irrigation on neighboring farms, and who have no public supply in their vicinity nor one where they can secure reasonable rates for their purposes, that water containing the most vegetable matter in suspension and salts in solution, that is water unfit to drink, may be more valuable for their purposes than water that is purest and most satisfactory for domestic

Digitized by Google

uses. It would be good policy for towns and cities to allow farmers the use of water from public works and at low rates within prescribed limits, provided that the source of supply was sufficient. It would tend to increase business and advance prosperity among those who deserve and often need it.

Wind-mills are the cheapest source of supply, drawing from streams, ponds, open or driven wells, where a smaller surface is to be irrigated and large storage basins can be located on a neighboring hill with suitable head, or in tanks; but, under other circumstances, the steam-pump can always be depended upon, and requires no storage basin; and while the first cost of this is perhaps greater than the wind-mill, the results are very far ahead. In Holland large wind-mills are in universal and profitable use throughout that low country, and are indispensable in drawing off the surplus water, which would otherwise flood it, by emptying it into canals which have their outlets in the sea, or in rivers. The reverse of this is suggestive in favorable locations.

It is not for me at this time to explain the details of the numerous methods of applying water to crops, but they are such as all can readily become familiar with, and can be found described in a little book by Henry Stewart, published in 1877, and which can be commended to our libraries as valuable for their farm-departments. I trust that this subject will be found attractive, and that the obstacles to be met with in arguing its merits, will prove only temporary, and be soon destroyed by the force of well directed thought and the intelligence of farmers.

FORESTRY.

The importance of the subject of forestry to which I have

Digitized by Google

already briefly referred, cannot be too highly pictured, nor too forcibly impressed upon every inhabitant of our extensive territory in these Eastern States especially; least in the State of Maine, but also of our whole nation. Everyone should be appealed to in whatever strain will be most likely to stimulate the individual to see it in its true light, that he may then either act upon it himself, or endeavor to influence others to plant trees, no matter how small a number; but the larger of course the better. It is an agent in preventing droughts and continuance of our manufactories, for the benefit of our descendants, that it should be our interest, and indeed is our duty, to impress the importance of this subject upon all minds. Our first object should be to make the interest in, and love of, trees popular among the majority of our citizens.

The owners of even the smallest house-lots, as well as those of greater extent, can always find time and a place to plant a few trees about their homes in appropriate spots, and of appropriate kinds, if such are not already in place, regard being had to where the sun, wind, and views should be shut out, or invited. All citizens and voters should realize the value of shade trees on the road-sides during the heat of Summer, when passing to and from their daily occupations, and they should remember these facts at those seasons when town meetings are about to be called, and should advocate and encourage shaded roadways and side-walks, so far as is consistent with their proper uses.

Such work tends to make localities more attractive and to keep the population more settled and less transient, and thereby enhances the value of real-estate in every sense of that word.

There is much pleasure to be had from the choosing, preparing

Digitized by Google

for, planting and tending a few, or many trees. With the care of a few trees our affections are surely turned towards them, and a thoughtful training and directing of their growth will reward their owners by quickened development and more perfect symmetry. As a rule, and such is my own experience, our native trees, both deciduous and evergreen, are to be preferred, for all kinds of planting to the foreign varieties. They thrive better and preserve a more perfect development, where a foreign variety deteriorates more frequently as its age increases.

Young trees which are set out in more exposed locations, even with the very best of care in preparation and planting, cannot always be expected to thrive, but frequently need an addition of more hardy, and perhaps less desirable varieties, to be planted among them as nurses, with the idea of removing these latter when the permanent trees are well started. Hills of Indian corn are also sometimes planted on the southerly side of young trees, and are allowed to remain there during their first winter as a shield from sun and wind. Foreign trees are often very desirable to mix with natives for effect in planting, and in protected locations, and should by no means be entirely discarded for such valuable uses. It has been recommended by many to import our trees but more especially when the resources of our own nation were less known than to-day. The European larch has been highly recommended for extensive planting on poor land, but my experience and that of a well known member and former Trustee of this Society, is against such recommendations. I believe that the white pine is the best growth for most of our lands, to be followed in natural rotation by deciduous trees on most New England soils which would be devoted to tree raising. An eminent authority says that "woodlands which have been long preserved by their

Digitized by Google

owners, sooner or later pass into the possession of those who, impatient to enjoy their value, and reckless of other considerations, ruthlessly fell them. Much of the land thus bared is of little value for any other purpose than the growth of wood, and is usually so closely pastured by domestic animals as effectually to prevent a new growth of trees.

In many of the older States the scarcity of timber is already severely felt. Hills and mountains which, not many years since were crowned with wood, now rear their heads in unsightly baldness; and streams once affording permanent water power have become useless for that purpose, or unreliable for a great part of the year."

In many foreign countries forests have been taken as the property of the government as the only means of protecting the country from wanton depredation.

The authority given by last season's Legislature for this State to become owners of woodlands and care for them is probably the best plan to insure their proper treatment.

The length of time required for the growth of timber from the seed to maturity shows that it was never designed in the order of nature for the exclusive use of a single generation.

I should mention why the state of Maine needs least instruction in forestry; it is because her prosperity being so dependent upon the product of her forests it has been the study of her citizens to keep them as continuous as possible. The European system prevails there quite largely, " cutting only the large trees and carefully protecting the rest, thus allowing the forests to be profitably worked at periods of from fifteen to twenty-five years apart, and thereby insuring their permanence. In this way, considerable areas are covered with second-growth pine."

Digitized by Google

PROTECT THE BIRDS.

There is one more subject connected with the cultivation of crops, which is a practical part of forestry not yet referred to, namely, that forests and all trees are the home of insect-eating birds. And when we consider how destructive we find many insects in our fields we ought to remember that the birds are very largely our defenders from that sort of enemy, and that we in return should consider that they depend upon us to protect their homes, and to afford them the opportunity of building their nests in trees in the neighborhood of our cultivated fields.

A study of birds and insects is also an interesting occupation for the evenings with the family, and is, in several foreign countries, considered a necessary part of school education for everyone.

SOUR FODDER AND ENSILAGE.

As the subject of ensilage is attracting much attention among us at this time I may be able to add a few words of interest. An article upon the subject was printed in our Transactions for 1873, based upon what I saw in Austria-Hungary at the time of the Vienna Exposition. The process of curing corn fodder, &c., as carried on there is known as sour-fodder, and differs from the French process, which is the one adopted in this country and which is too generally known to need our attention now. The Hungarian, as well as the French, method is approved by distinguished scientific men, and I saw it upon an extensive farm which was conducted upon principles coinciding with the teachings of the Agricultural College at Altenburg. The fodder was fed to a herd of milch cows, about fifty if my memory serves me right, and I saw that they ate it with a real relish.

Digitized by Google

Some meal was fed with it, but I am unable to state the quantity. After each milking the milk was immediately poured into a small tank from which it quickly flowed through a long spiral pipe surrounded with cold water and was drawn off into milk cans, to be sent directly to the Vienna market by rail where it arrives twice a day. This applies to the farm I visited, but the same kind of fodder was fed on various other farms, where the treatment of the milk may have differed.

These observations were made in 1873, and within a few months I have heard from an acquaintance in Hungary that the same process is to-day considered indispensable among the farmers there, and is conducted as I then saw it. I therefore think it worth while to state it clearly in the words of my friend.

"The corn is sown broadcast, or drilled in rows nine to eighteen inches apart, about three and one-half bushels to the acre. The cultivation is the usual one; the field must be kept free from weeds. At blossom-time the corn is mown, loaded into wagons, and hauled in. The home-brought corn is put in large ditches, ten or twenty rods long, and is here pressed in by a few men walking on the green corn. The ditch is twelve feet deep, twelve feet wide at top, and six feet at the bottom. The length will need to be sufficient to contain the fodder to be preserved. The ditch must be dug in dry ground. When the ditch is filled, the green corn is built like a stack upwards, about ten feet over the level of the ground. The finished stack is then covered with earth about two feet thick on every side. It is best to cover the top of the stack at first, because on account of the weight of the earth pressing down the green corn, as much earth is not needed for covering as is the case when the sides are covered at first.

Digitized by Google

"This sour-hay making enables us to store a large quantity of juicy fodder for the Winter, and if well covered with earth it may be stored for a few years without injury. The most important of all is, the beasts being once acquainted with this sour-hay like it very much. With us (in Hungary) the sour-hay is cut and mixed with corn-meal, or some other ground grain, and given to the cattle, but the sour-hay may be fed uncut also.

"In sections where stones and bricks are to be obtained, the sides of the ditch may be walled, but it is not necessary. * *"

Considering the fact that the climate in that part of Europe where corn is thus cured, is much like our own; that the cutting up is dispensed with until separated in the pit for use; that the cost of housing it is considerably less, all combine to make us study the subject to see whether we cannot yet adopt a still cheaper method of curing corn fodder than the French way.

While the farmers are forced by competition to sell milk at the absurdly low prices that have lately ruled we must welcome everything that shall appear to tend towards putting more honest profit into the milk-raiser's purse.

Certainly the French process bids fair to preserve Summer food through the Winter months, and where stall feeding is practised, to keep it in good condition into the following Summer, if desired.

Grass, rowen, and green crops in general are also preserved thus as well as corn-fodder. Knowing that fresh pasture feed makes the best milk, it is urged that ensilage of grass is a much better Winter food for milch cows, or animals that would be benefited by pasture feed, than dried up grass that is called hay. It can only be for such animals, and under those conditions, that ensilage, or sour-fodder, can be of value upon

Digitized by Google

the farm, and the practical trials that have every appearance of success to the minds of those who conduct them as well as many others, would seem to prove their value.

The fact that a large number of the intelligent farmers in different parts of this county of Essex have built silos and are continuing to use them seems to show me that it can be made so cheap that those who feed milch cows can afford to make it.

It would not be in accordance with the laws of nature to expect cattle to thrive in our latitude, when fed only on pasture feed for a whole year as some persons have claimed was possible where ensilage was to be made to represent pasture-feed during the Winter. Our cold seasons demand a warming, or fattening food, and we must continue to depend upon Indian-corn and other meals for that purpose, and not be too sparing in their use; remember also that the profits of the farm will be in proportion to the richness of the manure heap.

DOES FARMING PAY?

We frequently hear the question asked, and see the subject written up in agricultural papers, "Does farming pay?" There can be no doubt as to the answer. Of course it can. No land can voluntarily pour out its plenty into the hands of its owner. All depends upon who its owner is. Any active man can secure all the *needs* of this world and be adding improvements to his home. No one can make farming a success unless he applies all his energy and intelligence to his calling; and under such circumstances he will be well repaid. With a united family and the boys at home—conducting its work and all sharing in its advantages and profits—with its operations made extensive and varied, and with a small amount of hired help, it would seem possible to derive a large return in profit, health, happiness and satisfaction.

Digitized by Google

Ambition is necessary, which is the key to all success. The same energy that changed the undeveloped home of the savage into this grand christian Nation, that we claim as our own, is what can make farming pay, and in this country there are no obstacles to its free use.

SHEEP.

I would refer to sheep as an undoubted means of renovating worn-out, and now almost unused, pastures where bushes, briars and moss are on the increase and where the nutritious grasses have been suppressed by such useless growths. Many of our pastures possess a broken and rocky surface where the plough cannot be used, and where no implement can well serve to better it. In the sheep we have the means of keeping down the bushes, briars and moss and increasing and fertilizing the nutritious grasses on such rough and rocky land.

Sheep cannot be expected to feed on old bushes or old briars, but all such should be mowed down at the start; nor can they be expected to thrive in, or fully benefit, on old run-down pasture, without receiving some good feed from their owner each day. Our late Sec'y of Agriculture says in regard to keeping sheep "that it was necessary to give them something to keep them quiet and contented, or they would be jumping over the stone wall. So I bought a lot of cotton seed meal, paying thirty-five or forty dollars a ton; and I fed those sheep every day, morning and night, with cotton-seed-meal. They liked it first-rate, and it agreed with them uncommonly well. I do not remember the exact quantity, but perhaps a pint for each sheep at each feeding." "The result was, they cleaned out absolutely every briar, aud every sumac-bush, and many other

Digitized by Google

shrubs, but not the huckleberry bushes. They covered the pasture with manure." * * * "The cotton-seed-meal was a great advantage to that pasture."

They require careful attention on the part of their owner, that all forms of disease may be warded off, or cured at the start; and knowledge as to their habits and the diseases to which they are liable are necessary to successful management. This knowledge is readily obtained from good books upon the subjects which exist and should be found in the agricultural departments of all city and town libraries. The Sec'y of the State Board in his last report emphasizes the importance of this industry and urges its value upon all farmers. The ravages of dogs, by which the sheep are either killed out-right, or run to death, largely prevents their being kept. It is true that the loss by any damage done to flocks can under the laws be recovered by proving the loss; but farmers who have had experience claim that it costs too much in time and money to make it worth while attempting it. Consequently the farmer finds only loss in raising sheep and is at present unwilling generally to undertake it. An attempt was made last winter before the Legislature to alter the existing dog-laws in the interest of the would-be sheep raisers, but the opposition was too strong. It is a case where the welfare of the minority needs protection. An instance has just been called to my notice near Marblehead where some young cattle have been killed by dogs within the limits of the city of Salem. The owner will attempt to secure damages and the result will be of interest to us all. If state laws can be made to protect sheep-husbandry, all farmers should unite for their general good to secure their passage.

Digitized by Google

HORSE-SHOEING.

In the county of Yorkshire, England, a feature is introduced at the annual agricultural show which is certainly intimately connected with the business of our farms which creates much interest there, namely, a competitive exhibition of horse-shoeing in a manner adapted to the different horses for which that society offers premiums, and prizes are awarded by expert judges. It proves a very attractive feature of the show and its usefulness must be universally admitted. A member of our society, who this year has visited that show, has been urged to write upon this subject for our Transactions. Can we not adopt it to our advantage?

Considering the great strain, and wear, sustained by the sensitively made foot of the horse, in the amount of work done upon our hard roads, often excessively dry and of extra hardness for a long period of the year, it should be our aim, in every possible way to impress upon the public the importance of skillful shoeing, and endeavor to increase knowledge of the art.

Were there time I might properly dwell at length upon the value of our State Agricultural College as affording opportunities for advanced education to the farmer's more ambitious son; and particularly upon its value to us as an Experimental Station. It was a most wise act that founded the latter during the past winter, and the extent of its future success, even under the wisest management, must to a very great degree depend upon the amount of money granted to be expended upon it. Let us hope that we shall soon benefit by its influence.

In conclusion let me call your attention to the following figures taken from the most recent list of members of the

Digitized by Google

Society and the last census, showing that, with a population in the county of 223,342, we have only 1,402 members, and 98 non-resident members; or one member to every 159 of population.

While there is nothing discouraging in this exhibit, it has seemed to me that these figures show us that it would be to our advantage for all of us to make a determined effort to recruit our ranks to higher figures, by applying this plan.

Let every member strive to secure at least one new member for the Society before another year, remembering that the young as well as the older citizens are welcomed, and that we have now some ladies on the list. With enlarged membership and increased funds, the usefulness of our Society would be extended.

Cities or Towns.	Has one member to every	Members.	Population.
Hamilton,	23	35	797
Wenham,	25	36	911
Newbury,	27	52	1,426
Boxford,	35	24	834
West Newbury,	38	53	2,021
North Andover,	46	65	2,981
Danvers,	54	123	6,024
Bradford,	56	42	2,347
Lynnfield,	59	13	769
Rowley,	65	18	1,162
Topsfield,	67	18	1,221
Essex,	68	25	1,713
Georgetown,	69	32	2,214
Ipswich,	71	52	3,674
Groveland,	80	26	2,084

Digitized by Google

Cities or Towns.	Has one member to every	Members.	Population.
Manchester,	82	19	1,560
Middleton,	84	13	1,092
Andover,	102	50	5,097
Peabody,	133	72	8,066
Haverhill,	142	103	14,628
Beverly,	148	57	7,271
Methuen,	155	27	4,205
Merrimac,	167	13	2,171
Gloucester,	168	100	16,754
Newburyport,	178	75	13,323
Swampscott,	213	10	2,128
Saugus,	234	11	2,578
Rockport,	299	15	4,480
Salem,	324	85	25,958
Marblehead,	365	21	7,677
Amesbury,	424	9	3,816
Lynn,	525	62	32,600
Nahant,	766	1	766
Lawrence,	852	41	34,916
Salisbury,	1,020	4	4,078
		1,402	223,342

Digitized by Google

Digitized by Google

SIXTY-SECOND

ANNUAL CATTLE SHOW AND FAIR.

The show was held at Haverhill, Sept. 26 and 27, 1882.

The exhibition of Farm Stock, Agricultural Implements, &c., was on the circus grounds, Pond street; the Ploughing Match on land of John J. Marsh, Main street.

The exhibition of Fruit, Vegetables, Domestic Manufactures, &c., was held in the City Hall.

On the second day, after the annual address at the Centre church by Mr. Francis H. Appleton of Peabody, the annual dinner was served at Music hall, Benjamin P. Ware, President, presiding, and addresses were listened to from His Excellency John D. Long, John E. Russell, Secretary of the State Board of Agriculture, and others.

The entries in the several departments of the Fair were as follows:

STOCK, ETC.

Fat Cattle, three pairs; Bulls, eleven; Milch Cows, fifteen; Herds of Milch Cows, three; Heifers and Calves, thirty-nine; Working Oxen and Steers, ten pairs; Steers, eight pairs; Town Teams, three; Stallions, eleven; Brood Mares, ten; Family Horses, twelve; Farm and Draft Horses, fourteen; Pairs of Draft Horses, fourteen; Colts, twenty-five; Swine, seventy-three; Sheep, eighteen; Poultry, thirty-five coops; Ploughing, twenty-one entries; Agricultural Implements, eight entries; carriages, five entries.

IN THE HALL.

Pears, 20 entries, 240 plates; Apples, 59 entries, 260 plates; Peaches, Grapes, &c., 23 entries, 45 plates; Flowers,

Digitized by Google

37 entries; Vegetables, 52 entries; Counterpanes, &c., 67 entries; Articles from Leather, 4 entries; Merchandise, 10 entries; Fancy Work and Works of Art, 184 Entries; Children's Work, 23 entries; Bread, Honey, Preserves, etc., 11 entries; Dairy, 10 entries.

CHAS. P. PRESTON, *Secretary.*

REPORTS OF COMMITTEES, ETC.

FAT CATTLE.

The Committee on Fat Cattle report three pairs of oxen entered for premiums. After careful examination they have awarded the Society's premiums as follows:—

First premium to C. W. Adams, of Newbury, $12.

Second premium to Joseph Newell, of West Newbury, $10.

Third premium to James H. Reynolds, of North Andover, $6.

Thomas G. Ordway, George G. Davis, John A. Ellis.—*Committee.*

STATEMENT OF JAMES H. REYNOLDS.

This pair of cattle, five years old, which I enter for "Fat Cattle," were bought by me last Spring, measuring 6 feet, 11 inches and weighing 3150 pounds. Gave them 4 quarts meal per day during spring work, after which I turned them out to pasture about three weeks; nothing but grass during that time. Took them to the barn during the month of July, did most of my mowing with them, gave them three quarts of meal besides good hay. Since the first of August have been out to grass, three quarts of meal per day, working them on farm, ploughing, etc. They now measure 7 feet 5 inches, and weigh, the

Digitized by Google

nigh one, 1910, the off one, 1900—a gain of 660 pounds. It is said there has been but 10 pounds difference between them for two years past.

BULLS.

Your Committee would report one entry of Thoroughbred with his stock, five entries of Jerseys, one entry of Shorthorn, one entry of Ayrshire, two entries of Holsteins, and have awarded premiums as follows:

To W. A. Russell, of Lawrence, for his Thoroughbred Holstien with stock, first premium, $15.

To C. S. Bradley, of West Newbury, for his Short Horn, "Lord Dunmore," first premium, $10.

To Dudley A. Massey, of Danvers, for his Ayrshire Bull, "Brown Mars," first premium, $10.

To Thomas Sanders, Esq., of Haverhill, for his Jersey Bull, "Yellow Birch," first premium, $10.

To George W. Russell, of Lawrence, for his Jersey Bull, second premium, $6.

SECOND CLASS,—BULLS UNDER TWO YEARS OF AGE.

To Henry C. Nevins of Methuen, for his Devon Bull, first premium, $6.

To W. A. Russell, of Lawrence, for his Holstein Bull, "Henry Clay," first premium, $6.

To Thomas Sanders, of Haverhill, for his Jersey Bull, "Birch Bay," first premium, $6.

To W. A. Russell, of Lawrence, for his Holstein Bull, "Ernest," second premium, $4.

To Thomas Sauders, of Haverhill, for his Jersey, "Black Birch," second premium, $4.

Your Committee would make special mention of the Holstein Bull with stock of his get, exhibited by Mr. Russell, as one well adapted to the wants of this county, as we are essen-

Digitized by Google

tially a milk producing community; the heifers showing large capacity for milk with excellent disposition, and large size, and the bulls a remarkably quiet and gentle disposition.

Your Committee would also make special mention of the Short Horn Bull, "Lord Dunmore," exhibited by Judge Bradley; and of the Ayrshire Bull, "Brown Mars," exhibited by Mr. Massey, as animals of the highest merit in their respective breeds, and would take the liberty to suggest to the farmers of Essex county that it would be much to their advantage to breed from such animals instead of using the common grade bulls which so many of us do.

Respectfully submitted,

RICHARD NEWELL, *for the Committee.*

MILCH COWS.

The Committee on Milch Cows would report that there were twenty entries for premiums which were awarded as follows:—

Special premium of $25 to Wm. A. Russell, Lawrence, for his thoroughbred Holstein "Margo."

Best Milch Cow, first premium, $12 to M. O. Luce of Haverhill. Second premium of $6 to W. R. Whittier of Haverhill.

JERSEYS.

First premium of $12 to Harry H. Hale of Bradford, for cow "Nellie."

Second premium of $6 to Thomas Sanders of Haverhill, for cow "Nellie Birch."

DURHAMS.

First premium of $12 to C. S. Bradley of West Newbury, for cow, "Imperial Rose."

Second premium of $6 to C. S. Bradley of West Newbury, for cow, "Earls Dot, 2d."

Digitized by Google

HOLSTEIN.

First premium of $12 to Wm. A. Russell of Lawrence, for cow, "Jennie Clay."

Second premium of $6 to Wm. A. Russell of Lawrence, for cow, "Lady Noble."

To Nathan Priest of Haverhill, for his native cow, we would recommend a gratuity of $5.

One cow entered was thought to be too old to come within the rules of the Society, and a failure to present a written statement prevented others from being entitled to premiums.

James P. King, Alfred Green, Sherman Nelson—*Committee.*

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows:

I enter for the special premium for the best Milch Cow, my thorough-bred Holstein cow, "Margo"—Holstein Herd Book, No. 184.

Dropped her last calf March 2, 1882, and is due to calve Jan. 20, 1883.

Her record from Feb. 13th, 1881, to Jan. 17th, 1882, is as follows:—11,861 pounds for 337 days, an average of 35.20 pounds per day.

From May 8th, 1882 to Sept. 1st, 1882:—

May,	23 days,	1160 lbs.
June,	30 days,	1264 lbs.
July,	31 days,	1199 lbs.
Aug.,	31 days,	971 lbs.
	115 days,	4594 lbs.

An average of 39.94 pounds per day.

Her feed in winter has been one peck of shorts, and four quarts of corn and cob meal, with one feed of hay and ensilage once each day. Summer feed has been two quarts of cotton seed and two of clear corn meal, and corn fodder or

Digitized by Google

hay, each night and morning. I made a practice of feeding in the barn during the summer, on account of not having sufficient pasture for my herd of milch cows.

STATEMENT OF WILLIAM A. RUSSELL.

To the Committee on Milch Cows:

I enter for the premium on thorough-bred Holstein, four year old and upwards, "Jennie Clay," No. 341, and "Lady Noble," No. 360.

"Jennie Clay" is four years and six months old. She dropped her last calf April 13th, 1882, and is due to calve Feb. 31st, 1883. Milk record from April 16th to Sept. 1st, 1882, is as follows:

April,	14 days,	735 lbs.
May,	31 days,	1223 lbs.
June,	30 days,	1128 lbs.
July,	31 days,	930 lbs.
August,	31 days,	829 lbs.
	137 days,	4845 lbs.

An average of 35 35-100 pounds per day.

"Lady Noble" is four years and six months old. She dropped her last calf March 20, 1882, and is due to calve Jan. 13th, 1883. Milk record from April 1st to Sept. 1st, 1882, is as follows:

April,	30 days,	1372 lbs.
May,	31 days,	1239 lbs.
June,	30 days,	1000 lbs.
July,	31 days,	956 lbs.
August,	31 days,	813 lbs.
	153 days,	5380 lbs.

An average of 35 16-100 pounds per day.

The feed of each cow has been one peck of shorts and four quarts of corn and cob meal in the winter, together with one

Digitized by Google

feed of hay and ensilage once each day. Their summer feed has been two quarts of cotton seed meal and two of clear corn meal each day, and corn fodder or hay each night and morning, to help out deficiency of pasture.

WILLIAM A. RUSSELL,
by James C. Poor.

STATEMENT OF M. O. LUCE.

The cow I enter is a grade short horn, is six years old 28th of March last; dropped her calf Aug., 1881, and gave from fifteen to seventeen qts. of milk per day, without grain, for three months after calving. At three months before calving, this year, was giving four qts. of milk per day; she had four qts. of cob meal per day through the winter.

STATEMENT OF HARRY H. HALE.

Jersey Cow, "Nellie;" owner, Harry H. Hale. Bred by Mr. Havemeyer at Orange, N. J., from cow owned by him, and believed by him to be properly registered. Number missing. By Imp. Bull belonging to Lowell Mason of Mont Rose, New Jersey. Cow Nellie dropped last calf, May 10th, 1882.

She gave from 23 to 25 qts. of milk per day, from that time until the drouth, from which from 10 to 12 lbs. of butter was made per week. Have given no feed but green corn fodder twice each day and what little grass she could find. Have made butter every week this year from her milk.

STATEMENT OF W. R. WHITTIER.

I enter for premium, a Durham and native cow, 7 years old. She is a fine family cow; never gives a large mess of milk; not more than from 12 to 15 quarts in 24 hours. But gives very rich milk, and holds out up to her calving if desired; makes fine butter in a short time. Has had no feed excepting what she got in the pasture up to August; since that time we have given her 4 quarts of shorts, in water, a day. This cow calved last May and calves again next May.

Digitized by Google

STATEMENT OF NATHAN PRIEST.

Native cow, 9 years old, bought her with a calf 2 weeks old April 1st; will calve again last of March. The man I bought her of said she was capable of making 12 lbs. of butter a week, but since I have had her I have sold the milk. She averaged 14 qts. of milk per day until June 1st, through June until August 18 qts., from then until now 13 qts. Gave her 4 qts. of shorts until Sept. 1st, since then 2 qts. of meal extra.

HERD OF MILCH COWS.

The Committee award as follows :—

To William A. Russell of Lawrence, first premium, $18.

To Thomas Sanders of Haverhill, second premium, $12.

Samuel S. Pratt, M. A. Plummer, George M. Wonson, Charles J. Peabody, John Q. Evans.—*Committee.*

STATEMENT OF WM. A. RUSSELL.

To the Committee on Herd of Milch Cows :—

I enter for your consideration my Holstein cows, "Maid Marion," "Cathrena," "Margo," "Maud Clay," "Maid Fairfax," "Jennie Clay," "Lady Noble," all thorough-breds, and "Bessie," "Dido," "Sally," and "Georgia," grade Holstein.

"Maid Marion,"	dropped	her	last	calf,	March 1st,	1882.
"Cathrena,"	"	"	"	"	Feb. 22,	"
"Margo,"	"	"	"	"	March 2,	"
"Maud Clay,"	"	"	"	"	Oct. 19,	1881.
"Maid Fairfax,"	"	"	"	"	Dec. 20,	"
"Jennie Clay,"	"	"	"	"	April 13,	1882.
"Lady Noble,"	"	"	"	"	March 20,	"
"Bessie,"	"	"	"	"	Sept. 14,	"
"Dido,"	"	"	"	"	Aug. 20,	"
"Sally,"	"	"	"	"	March 25,	"
"Georgia,"	"	"	"	"	March 26,	"

Digitized by Google

Their milk record, which was determined by weighing and recorded at each milking, is as follows:

"Maid Marion,"	from March 6 to Sept. 1,	178	days,	8924	lbs
"Cathrena,"	" March 1 to Sept. 1,	184	"	7399	"
"Margo,"	" March 8 to Sept. 1,	176	"	7405	"
"Maud Clay,"	" Nov. 1, '81 to Aug. 1, '82,	272	"	9008	"
"Maud Fairfax,"	" Jan. 1, '82 to June 1, '82,	151	"	5466	"
"Jennie Clay,"	" April 16 to Sept. 1, '82,	137	"	4845	"
"Lady Noble,"	" Mch. 27 to Sept. 1, '82,	157	"	5585	"
"Bessie"	" Sept. 16, '81 to Feb. 17, '82,	153	"	5700	"
"Sally,"	" April 1, '82 to Sept. 1, '82,	153	"	5011	"
"Georgia,"	" March 31, '82 to Sept. 1, '82,	153	"	4588	"
"Dido,"	" Aug. 25, '82 to Sept. 25, '82,	30	"	1080	"
		1744		65,011	

An average of 37 29-100 pounds per day,

Their winter feed has been eight quarts of shorts and four of corn and cob meal each day, while in the barn, and the summer feed, besides pasture, has been two quarts of cotton seed meal up to the first of July; after that two quarts of cotton seed and four of shorts, the latter being given in the morning and the cotton seed meal at night. They have also had in winter time some roots, dry fodder (hay and corn fodder), once each day and one feeding of ensilage. During the low pasturage of this summer they have had either hay or corn-fodder morning and night. In winter they are watered twice each day after feeding; and they are milked at 5 A. M. and 6 P. M. regularly the year round.

STATEMENT OF THOMAS SANDERS.

To the Committee on Herd of Milch Cows :—

I enter for premium, Herd of Milch cows, thorough-bred Jersey, "Birch Brow", No 16,305; "Lady Birch," No. 16,307; "Nellie Birch," No. 15,618; "Idex 3d," No. 13,708; "Decca 3d," No. 5531; "Nina 2d," No. 2557.

"Birchbrow," No. 16,305, dropped her calf, "Birchbrow, 2d,"* April 30th, 1882, and gave from that time, until sent to

Digitized by Google

Col. H. S. Russell's Home Farm, Milton, to be served by Pedro, July 22d, 1882, 18 pounds of milk per diem, on ensilage with four quarts of shorts and one feed of hay while in the barn, and ordinary pasture after May 16th without grain. This was the treatment to which the whole herd was subjected after calving. Before calving they were fed on ensilage with two quarts of shorts and one quart of cob meal per diem without any hay.

"Lady Birch," No. 16,307, dropped her first calf in March, 1882. Her feeding and record are almost identical with those of "Birchbrow," No. 16,305, and she was also sent to Pedro, July 22, 1882.

"Nellie Birch," No. 15,618, dropped calf in April, 1882, and has, since until August 1st, given twenty-three pounds of milk per diem.

"Idex 3d," No. 13,708, dropped calf in April, 1882, and has since until August 1st given 18 pounds of milk per diem.

"Decca 3d," No.5531, dropped calf, "Birch-breeze,"* Mch. 19, 1882, and has, since until August 1st, given 17 pounds of milk per diem.

"Nina 2d," No. 2557, dropped calf, "Mole Birch"* October 3d, 1881, and since until August 1st, 1882, given 12 pounds of milk per diem, which considering her age, feed, and the length of time after calving is a fair record.

I have never tested any of the milk for butter, as my barn and dairy arrangements are not yet perfected, but as the cows are from a butter-making family, I expect to show, next year, after a careful record, very handsome results.

I desire to call attention to the fact that "Nellie Birch," No. 15,618, is the mother of "Birchbrow," No. 16,305, and "Decca 3d," No. 5531, is the mother of "Lady Birch," No. 16,307.

All these animals are recorded in the American Jersey Cattle Club's Herd Register.

---

*Not recorded but entitled to registry.

Digitized by Google

HEIFERS—FIRST CLASS.

The Committee on Heifers, First Class, have attended to their duty, and report as follows:—

HOLSTEINS.

William A. Russell, Lawrence:—

Heifers under Four years old, in milk.

"Fanny Noble," 2 years 6 months old, first premium, $12.

"Belle Fairfax," 2 years 9 months old, second premium, $6.

Mr. Russell's statement is good.

"Fanny Noble," calved Sept. 17, 1882, and has a record for five days, ending Sept. 24, 1882, of 193 pounds, 38.60 lbs. per day.

"Belle Fairfax," calved August 25, 1882, and has a record for first 24 days in September, of 811 lbs., an average of 33.79 lbs. per day.

They run at pasture, and are fed in the morning with four quarts of shorts, and at evening with two quarts of cotton-seed meal; they get green corn-fodder also, morning and evening, and are milked three times each day

Heifers not in milk, over One year old.

"Emma Clay," 16 months old, first premium, $6.00-

"Lady Shepard," 18 months old, second premium, $4.00.

Heifer Calves under One year old.

"Lady Royal," 6 months old, first premium, $5.00.

"Mabel Marion," 6 months old, second premium, $3.00.

SHORT HORNS.

C. S. Bradley, West Newbury:—

Heifers not in milk, over One year old.

"Minnie 5th," dropped April 20, 1881, first premium, $6.

"Byfield Tulip, 2d," dropped Feb. 10, 1881, second premium, $4.00.

Digitized by Google

Calves.

"Early Dot, 5th," dropped July 22, 1882, first prem., $5.

"Imperial Rose, 8th," dropped June 1, 1882, second premium, $3.00.

DEVONS.

H. C. Nevins, Methuen:—

Heifers in milk.

"Winooska Belle," first premium, $12.00.

"Rosamond, 3d," second premium, $6.00.

Under Four years old, and not in milk.

"Juno," dropped July 29, 1882, first premium, $6.00.

"Minnie May," second premium, $4.00.

JERSEYS.

Thomas Sanders, Haverhill:—

"Birch Brow," 3 years old, in milk, second premium, $6.

"Birch Brow 2d," over 1 year old, not in milk, first premium, $5.00.

"Mole Birch," second premium, $4.00

One calf, "Birch Brow," second premium, $3.00.

Some nice stock was exhibited and entered for premium, claiming to be blood stock, having received the Society's premium heretofore. But no statement of reference for pedigree could be furnished.

To avoid the error of granting premiums where no reference for pedigree can be furnished, in compliance with the rules of the Society, your Committee recommend that the Society choose a Standing Committee on blood stock, of those who will interest themselves in carrying out the will of the Society, and have access to books of reference. When will the Society awake to their interests in this matter?

Chas. P. Mighill, W. Burke Little, Thos. G. Ordway, E. G. Nason.—*Committee.*

Digitized by Google

STATEMENT OF WM. A. RUSSELL.

To the Committee on Heifers, first class:—

I offer for premium the following heifers under four years old and giving milk.

"Belle Fairfax," 2 years and 9 months old.

"Fanny Noble," 2 years and 6 months old.

Both are thorough-breds and are numbered in the herd book 1117 and 1114 respectively.

"Belle Fairfax," calved August 25th, 1882, and has a record for the first 24 days in September of 811 pounds, an average of 33 79-100 pounds per day.

"Fanny Noble," calved September 17th, 1882, and has a record for five days ending with September 24th, of 193 pounds, 38 60-100 pounds per day.

They run at pasture and are fed in the morning with four quarts of shorts, and at evening with two quarts of cotton-seed meal; they get green corn-fodder also, morning and evening, and are milked three times each day.

I also enter for premium for "heifers one year old and upward, never calved" the following:—

"Lady Shepard," 18 months old.

"Emma Clay," 16 months old.

Also for heifer calves under one year old :—

"Lady Royal," 6 months old.

"Mabel Marion" 6 months old.

The four heifers above are all thorough-bred from choice imported stock.

STATEMENT OF THOMAS SANDERS.

To the Committee on Heifers:

"Birch Brow," No. 16,305, dropped her calf, "Birch Brow 2d,"* April 30, 1882, and gave from that time until sent to Col. H. S. Russell's Home Farm, Milton, to be served by Pedro, July 22d, 1882, 18 pounds of milk per diem, on ensilage with four quarts of shorts and one feed of hay while in the barn, and ordinary pasture after May 26th, without

Digitized by Google

grain. Before calving fed on ensilage with two quarts of cob meal per diem without any hay.

"Lady Birch," No. 16,307, dropped her first calf in March, 1882. Her feeding and record are almost identical with those of "Birch Brow," No. 16,305, and she was also sent to Pedro.

HEIFERS—SECOND CLASS.

The Committee on Heifers, Second Class, award as follows:

To Charles W. Adams of Newbury, for Yearling Heifer, first premium, $6.

To S. & N. Longfellow of Groveland, for Yearling Heifer, second premium, $4.

To T. O. Wardwell of North Andover, for calves, first premium, $5.

To B. H. Farnham of North Andover, for Calves, second premium, $3.

John Swinerton, George E. Herrick, Albert Berry.—*Committee.*

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers have attended to their duty and make the following report:—

Eight pairs of oxen were entered, and seven appeared and contested for the premium. We award as follows:—

First premium of $12 to Albert Berry of North Andover.

Second premium of $10 to Miss Harriet E. Kittredge of North Andover.

The third premium of $8 to J. L. Farnham of No. Andover.

First premium on four year old Steers, $10, to B. H. Farnham of North Andover.

---

*Not recorded but entitled to registry.

Digitized by Google

Second premium of $6 to William and Alfred Little of Newbury, all of which are respectfully submitted.

HARTWELL B. ABBOTT,
for the Committee.

TOWN TEAMS.

The Committee report as follows:—

For twelve pairs of Horses from North Andover, first premium, $25.

For sixteen pairs of oxen from North Andover, first premium, $25.

For ten pairs of oxen from Bradford, second premium, $15.

George W. Sargent, J. Longfellow, Edward G. Dole.—*Committee.*

STEERS.

The Committee on Steers respectfully submit their report, as follows:—

Whole number entered for premium, ten pairs. Three year old, three pairs.

Byron K. Farnum of North Andover, entered a fine pair of twin steers, very handy and appeared as well used to the yoke as older oxen. The Committee were told that these steers would be used to lead one of the teams in the ploughing match (swivel plough), the next day, and we award to said Farnum the first premium of $8.

Henry Berry, of Boxford, showed a fine looking pair of well matched steers, handy in the yoke or out of it. These steers were a very near match for Farnum's and the awards were not made until the Committee did make a very close examination of the two pairs, and were unanimous in our

Digitized by Google

opinion that this pair were second, and therefore awarded to Mr. Berry the second premium of $6.

The other pair belonged to Henry H. Spofford of Groveland. These steers were worthy of notice, used to the yoke and well matched, but as the Committee had no third premium to award, and by the rules of the Trustees, no gratuities at our disposal was obliged to pass them by.

Two year old four pairs. The best pair belong to S. & N. Longfellow of Groveland. These were of Durham blood, large of their age, although not so well used to the yoke as some of the other steers, yet no one would doubt that they were worthy of the first premium of $6.

J. Ralph Farnum of North Andover, showed a very handsome pair of Herford steers, handy as oxen and well matched, and we award to him the second premium of $5.

The other two pair were owned by H. H. Spofford of Groveland, and B. W. Farnum of North Andover, both pairs being handy; but the Committee were out of funds, and could only hope that the boys who had the care of them might become good men and practical farmers.

Yearling steers three pairs. The Committee award to Thomas Saunders of Haverhill, the first premium of $5.

Richard Bray of Newbury, entered the other two pairs and we award the second premium of $4 to the said Bray for his twin steers.

We were sorry to say that there were no steer calves on the ground, but would recommend that the Trustees hereafter offer a second premium of $3 for steer calves.

Abel Stickney, Daniel A. Carleton, Royal Day.—*Committee.*

STALLIONS.

The Committee found eleven entered for premium, and have awarded as follows:

To H. H. Hale of Bradford, the special premium of $25, for his Stallion, "Red Path," with ten colts.

Digitized by Google

To Henry C. Nevens, of Methuen, the second premium of $8, for his four year old Stallion, " Daniel Lambert."

To J. R. Prescott, of Haverhill, the third premium of $6, for his Stallion, " Phil Sheridan."

We award the first premium of $8 to Henry C. Nevins, of Methuen, for the best three year old Stallion, " Redpath, jr."

The second premium of five dollars to John O. Goodwin, of North Andover, for his three year old Stallion.

Many of the Stallions entered were young and very promising and would do credit to any stock raised. The Committee were sorry they did not have it in their power to award more premiums.

CHAS. H. GOULD,
for the Committee.

BROOD MARES.

The Committee on Brood Mares met at the Fair grounds, Tuesday at 2 o'clock, P. M., all present. Eight mares were presented for our examination. Four of them were sound, and four unsound.

The first premium of $12, was awarded to Thomas Sanders; the second of $8, to Rufus Goodwin; the third of $6, to J. J. Downing.

The Committee wish to call the attention of exhibitors to the rule of the society which says, "No brood mare will be entitled to a premium unless free from all apparent defects capable of being transmitted."

Wm. Cogswell, O. S. Butler, David Stiles, H. G. Herrick, E. K. Lee.—*Committee.*

FAMILY HORSES.

The Committee report 17 horses entered for premium. Ten failed to appear. The Committee award:—

Digitized by Google

To O. S. Butler, of Georgetown, first premium, $12.

To Peter Holt, jr., North Andover, second premium, $8.

To Alfred C. Hill, Saugus, third premium, $6.

Peter D. Smith, D. A. Pettengill, Nathaniel Shatswell.—*Committee.*

STATEMENT OF O. S. BUTLER.

Entered for premium, Black Morgan mare, "Pettie." She was seven years old last August. Before commencing Spring work she weighed 1000 pounds; her weight now, is about 950 pounds. She is perfectly sound and free from all blemish. Her habits are perfect, on the plough, or in the cart, in the family carriage or in the stable. She is a good roadster and safe for any driver, woman or child, that can drive any horse. I think she is the most perfect young horse for all work that I have ever owned. Her Dam was a full blood Morgan. Her Sire was a cross with the Knox.

FARM AND DRAFT HORSES.

Your Committee would report 13 entries; 11 competitors contested; and recommend the following premiums:—

Wm. H. Butters, Methuen, first premium, $12.

J. Cashman, Newburyport, second premium, $8.

R. S. Bray, Newbury, third premium, $6.

Jonas Rollins, Danvers, fourth premium, $4.

J. A. Ilsley, Georgetown, gratuity, $3.

Peter Holt, jr., No. Andover, gratuity, $2.

Owing to lack of good management, or rather no management at all, we were delayed an hour waiting for a wagon with which to test the working qualities of the horses; and then, were obliged to procure one ourselves, or take a dump cart; and we didn't take the dump-cart.

In making the awards, the soundness and size, as well as

Digitized by Google

drawing and backing qualities were taken into consideration, and all were subjected to the same tests. Nearly every horse pulled well, but only two horses came up to the committee's standard in backing.

The purchase of a horse adapted to all the varied wants and uses of a farm is a matter of more than ordinary importance to the farmer who attempts it, for in this one animal are to be combined many and diversified qualities of superior excellence, and he who succeeds in such an undertaking is to be congratulated upon his acquisition.

It is hardly a generation ago when oxen were almost universally used upon the farms of Essex Co., but in that short space of time what a change has been wrought, what a revolution, so to speak, has there been in our whole system of agriculture. The iron bands of rails that have been extending through the broad prairies of the western country, now bring to the very doors of our New England homes, at a less price than we can raise them, the very products that our fathers, and we ourselves, thought to be the crops upon which we must put the most dependence. The farmer, who in previous years fatted his oxen during the winter months, and "turned them" at a good profit after the spring work was over, now finds that every market is filled with "Chicago dressed beef," and his accustomed profit has turned into an actual loss. But the enterprising Yankee farmer does not sit supinely down and mourn for the good times of the past. We accept the fact that "times change and men change with them," if they wish to keep atop in this progressive age. We realize that it is impossible to compete with the west and south in the production of corn, potatoes, pork and beef; hence a change is necessitated if we wish to make our business profitable. Fortunately a ready market for the more perishable crops, or those costly of transportation is always to be found in the large manufacturing towns, by which we are encircled; so the crops are changed, the oxen go, have gone, I almost said, and the horse takes and more than fills their place, for not only is the heavy farm work

Digitized by Google

done more rapidly but also with much greater ease to the owner. Young America cannot go plodding along in the same old ruts worn by his ancestors, and so the manure is teamed to the field in a four wheeled dump cart, on which is a comfortable spring seat for the driver; the sulky plow turns the furrow, the Ladow or the Randall harrow pulverizes the soil. The crops are hoed, the grass cut, the hay raked and carted to the barn, and all done by the horses, at a saving of more than fifty per cent of labor to the owner. And this is only the commencement of what the farm horse does for his owner; he furnishes the motive power for the milk wagon every day in the year; with him the crops are harvested, and marketed in the adjoining towns. He takes the family to the beach, the town, and to church; and at the annual fair well sustains his reputation as the best farm and draft horse. Was the change from oxen to horses made too soon, think you? Respectfully submitted,

Horace F. Longfellow, Asa T. Newhall, Geo. L. Hawkes.—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee on Pairs of Draft Horses submit the following report:—

There were fifteen pairs of horses entered, and fourteen pairs competed for premium. One of the competitors thinking the test too severe for a pair of young horses, did not allow them to draw. We regret that we used so large a trig, but after beginning with it thought it best to treat all alike. Since the ox has so generally given place to the horse on the farms in Essex county, the farmers manifest a growing interest in good horse teams, and the trial of draft horses has justly become one of the most interesting features of the fair.

Most of the horses exhibited were large, sound, well formed animals, bearing evidence of good care and training. Many

Digitized by Google

of them were as neatly groomed as any coach horse, decked with ribbons and with their clean harnesses with brass and ivory mountings, making altogether a very fine appearance.

While your Committee commend the competitors for their good taste and pride, in making a good show at the fair, and take special delight in seeing a pair of noble work horses in their gorgeous trappings, we are of the opinion that some of the horses would have performed better in their "every day clothes." For example:—one of the finest, if not *the* finest pair of horses exhibited, wore a new harness which had never been worked in, and which, in the judgment of the committee, was not properly adjusted; on this account, they failed to accomplish all they might have done had they been accustomed to their harness. Again, some of the horses which have always worked in blinders were shown in open bridles. We fully believe in open bridles for work horses. They are lighter, more comfortable, and look better, but horses must become accustomed to them before they will behave just as well as they did in blinders.

In hitching a pair of horses to a load they should be hitched as near the whiffle-tree as they can work without touching, with the breeching just loose enough to allow the horse the free use of his legs. It is a common mistake to let the breeching down so low that in backing, the horse is set on his haunches and is unable to move the load; and in holding the load, down hill, it has a tendency to draw the hind legs together, causing him to interfere.

It is evident to the committee that in matching work horses too much attention is paid to the size and color, to the neglect of some of the more important requirements. It is necessary, in order to have a perfect working team, that the horses should be as nearly as possible of the same temperament, taking care never to mate a high spirited, nervous horse with a slow, stupid creature that has no ambition to do his part. They should also have the same gait, as a long gaited horse and one that naturally steps short and quick can never

Digitized by Google

work evenly together. One horse may be many pounds lighter than another and still have as much strength and be able in every way to do as much work.

We think the farmers are ambitious to get too large work horses; we believe that for all ordinary farm work a pair of horses that are well formed and when in fair condition weigh about twenty-two hundred, is about the right size.

The quiet way in which the horses were all handled, was very gratifying to the committee. While we believe that a little judicious whipping is sometimes necessary, we most earnestly urge all teamsters to treat their horses kindly. A team, to be of the greatest possible value to a man must be entirely under his control, and still love and confide in him.

After witnessing the performance of so many fine working teams, the committee find it no easy task to award three premiums, and we regret that there are no more premiums at our disposal. We would recommend the horses entered by Jeremiah Cashman of Newburyport, Oliver Stevens of North Andover, W. J. Mansfield of Haverhill, Edward Adams, and Rea brothers of North Andover, as being worthy of especial mention.

We award the first premium of twelve dollars to Edward P. Perley, of Danvers; the second premium of eight dollars to Thomas Sanders, of Haverhill; the third premium of four dollars to A. P. Fuller, of North Andover.

PETER HOLT, JR,
Chairman of Committee.

COLTS—FIRST CLASS.

The Committee award as follows.—

To B. G. Gutterson, Methuen, for colt 4 years old, first premium, $10. To Joseph Newell, West Newbury, for colt 4 years old, second premium, $6.

To Albert C. Heath, Haverhill, for colt 3 years old, first pre-

Digitized by Google

mium, $8. To F. G. Hunkins, Haverhill, for colt 3 years old, second premium, $5.

B. F. Jenkins, John E. Herrick, J. M. Danforth, R. Jaques —*Committee.*

COLTS—SECOND CLASS.

The Committee award to H. M. Coburn, Methuen, for 2 year old colt, first premium, $6. To T. S. Ruddock, West Newbury, second premium of $4.

To Peter Holt, Jr., No. Andover, for yearling colt, first premium, $6. To M. O. Luce, Haverhill, second premium, $4.

R. Ward, H. Little, D. A. Pettengill.—*Committee.*

SWINE—FIRST CLASS.

The Committee make the following awards :—

To Thomas Sanders of Haverhill, for large Yorkshire Boar, first premium, $10.

To Geo. H. Plummer, Newburyport, Poland China, second premium, $6.

To Jeremiah Cashman, Newburyport, W. Chester Breeding Sow, first premium, $10.

To Jacob L. Farnham, No. Andover, Grade Berkshire, second premium, $6.

To Danvers Insane Hospital, Weaned Pigs, first premium, $10.

To Thomas Sanders, Haverhill, Weaned Pigs, second premium, $6.

C. C. Blunt, M. S. Jenkins, Geo. Buchan, C. R. Anderson. —*Committee.*

Digitized by Google

SWINE—SECOND CLASS.

The Committee report:—

To Alfred M. Trask, Danvers, for small Yorkshire Boar, first premium, $10.

To Alfred M. Trask, Danvers, small Yorkshire Breeding Sow, first premium, $10.

To Alfred M. Trask, Danvers, Weaned Pigs, first premium, $10; second premium, $6.

To C. H. Poor, Bradford, small Yorkshire Boar, second premium, $6.

To T. O. Wardwell, No. Andover, small Yorkshire Breeding Sow, second premium, $6.

A. L. Morse, Asa M. Bodwell, A. Perley Johnson.—*Committee.*

SHEEP.

The Committee on Sheep have attended to their duty and report as follows:—

Mr. Thomas Sanders, of Haverhill, for best flock of ten thorough-bred Atwood Merinos, first premium, $10.

Joseph Newell, West Newbury, best lot of lambs, first premium, $4.

Joseph Newell, West Newbury, best Buck, first premium, $8.

The subject of sheep husbandry, always one of the greatest importance to the whole farming community, is receiving such additional interest and attention at this time from various causes, that, in my opinion, it should occupy a more extended space in Essex county.

In Massachusetts there are about 68,000 sheep; an increase of about 8,500, since 1875. With this increased number, it is a self-sustaining fact that there is a very decided impression among the farmers in every part of the State, to enter more

Digitized by Google

generally into this most profitable and pleasant branch of our farm industry.

The system of registry is quite perfect, and I think a Sheep Breeder's association might be formed in Essex County, as well as in many localities in other States, which are doing a most useful work.

A few years ago I was in Vermont for a short time; while there I passed most of my time with one of the representatives to the Legislature; he was a successful farmer and kept quite a number of sheep, and from him I got some good ideas as to the industry in that vicinity; he said that the breeding of fine merino sheep was an extensive industry, embracing among its supporters purchasers from the Middle and Western States, Texas, California, New Mexico, and other wool-producing sections.

In considering the comparative values of the different breeds of sheep, from a wool standpoint, it is clearly evident that the most profitable to the grower, are the fine-wooled sheep, either the high grade Merino or the pure blood; and, furthermore, for the past few years there has been an increasing tendency towards the production of a finer class of goods.

The prosperity of the country has created a demand for better clothing, and so long as we can look forward to continued success in our great agricultural and industrial enterprises, there is little prospect of a retrograde movement towards cheaper fabrics.

No clearer evidence of the prevailing demand for better woollens is shown, than in the case of one of the largest corporations in New England, whose machinery is adapted to, and whose consumption consists in, the working of medium and low-combing wools. The prosperity of this mill in past years has been so great that its shares of stock were worth, a year and a half ago, about threefold their par value; whereas, the decline in prices of low grade goods during the past eighteen months, has depreciated the stock from that point more than thirty-five per cent.

Digitized by Google

In closing, I would say, emphatically, to those of you who have been breeding the coarser wools, or who have been negligent as to quality of your flocks, lose no time in raising the standard of your wool; cull out the defective sheep, replace them with full bloods or high grades, and use the thorough-bred Merino rams for the increase.

E. C. FARWELL, *Chairman.*

STATEMENT OF THOMAS SANDERS.

I enter for premium, a flock of ten thorough-bred Atwood Merino Sheep,

"Ewes, from Flock No. 19, labelled E. W. Farwell transferred to me on the books of the Vermont Atwood Merino Sheep Club, Nos. 30, 40, 45, 63, 69, 70, 72, 73, 75, and Ram, from Flock, No. 33, labelled O. & E. S. Hall, transferred to me as above, No. 166." I desire to call the especial attention of the Committee to this flock, the ewes of which are directly descended from a flock owned by me twenty years ago, in Vermont, and from which I realized the handsomest profit I ever derived from any animals. This flock sheared as follows in April, 1882:—

No. 30,	8 lbs.	No. 70,	8½ lbs.
No. 40,	9 lbs.	No. 72,	8¼ lbs.
No. 45,	9½ lbs.	No. 73,	10 lbs.
No. 63,	9 lbs.	No. 75,	9¼ lbs.
No. 69,	10½ lbs.	No. 166,	19¾ lbs.

Making 101¾ lbs, from the ten; an average of over 10 lbs. per head.

If such sheep can be raised in this county it will be a great source of revenue to farmers.

THOMAS SANDERS,
per H.

Birchbrow Farm.

Digitized by Google

POULTRY—FIRST CLASS.

The Committee award as follows :—

To William Sawyer, Georgetown, L. Brahma chicks, first premium, $3.00.

To E. Frank Webster, Haverhill, Buff Cochin Fowls, first premium, $3.00.

To E. Frank Webster, Haverhill, Black Cochin Chicks, first premium, $3.00.

To Charles A. Andrew, Boxford, Emden Geese, first premium, $2.00.

To George G. Pierce, West Newbury, Grey China Geese, first premium, $2.00.

To Chas. A. Andrew, Boxford, White China Geese, second premium, $1.00.

To George K. Hale, Haverhill, Grey China Geese, second premium, $1.00.

To George G. Pierce, West Newbury, Rouen Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, Bronze Turkeys, first prem., $2.

To Geo. K. Hale, Haverhill, Bronze Turkeys, second premium, $1.00.

To C. A. Andrew, Boxford, Toulouse Geese, first prem., $2.

To Geo. G. Pierce, West Newbury, Muscovy Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, Pekin Ducks, first prem., $2.00.

To E. Frank Webster, Haverhill, Pekin Ducks, second premium, $1.00.

To H. C. Nevins, Methuen, White Turkeys, second pre., $1.

To E. F. Webster, Haverhill, Bronze Turkeys, gratuity, $1.

To H. C. Nevins, Methuen, Narragansett Turkeys, first premium, $2.00.

J. O. Parker, H. C. Fegan, R. G. Buxton.—*Committee.*

Digitized by Google

POULTRY—SECOND CLASS.

The Committee award as follows:—

To Geo. H. Smith, Haverhill, Plymouth Rock Fowls, first premium, $3.

To Willard L. Fisk, Saugus, Plymouth Rock Fowls, second premium, $1.50.

To G. Howard Smith, Haverhill, Plymouth Rock Chicks, first premium, $2.

To C. H. Hill, Haverhill, Brown Leghorn Fowls, first premium, $3.

To H. G. Ingersoll, Haverhill, Brown Leghorn Chicks, second premium, $1.

To Geo K. Hale, Haverhill, Clayborn Game Fowls, second premium, $1.

To W. P. Libby, Groveland, Dominique Chicks, second premium, $1.

To H. C. Fegan, Groveland, Black Red Game Bantam Fowls, first premium, $2.

To John Swinerton, Danvers, Black Red Game Bantam Fowls. second premium, $1.

To John Swinerton Danvers, Black Red Game Bantam Chicks, first premium, $2.

For trio of fowls in this class with statement of produce for one year, with cost of feeding, showing profit. No competitors.

Your Committee having had considerable experience in breeding poultry, for flesh and eggs, believe there is nothing produced on the farm that pays a greater percentage upon the capital invested, than fowls, if proper attention is paid to breeding, feeding and housing. Yet Essex County farmers, with a ready market at their doors for all they can produce in this line, appear to be rather averse to such enterprises.

GEO. W. CHADWICK, *for the Committee.*

Digitized by Google

PLOUGHING—DOUBLE TEAMS.

The Committee on Ploughing with Double Teams, at the late fair, make the following report:—

The land was not favorable for good work, but your Committee concluded to give the first premium, of twelve dollars, to Bray & Little. The second, of ten dollars, to B. H. Farnum.

C. H. NICHOLS, *Chairman.*

PLOUGHING—SINGLE TEAMS.

The Committee report but one entry made for premium with single ox team; the team of Charles J. Peabody of Topsfield.

The Committee award to Charles J. Peabody, of Topsfield, the second premium, of $7.

Mr. Peabody being the only person making an entry in this class, the committee did not feel that it was their duty to award him the first premium, simply because he was the only competitor, as the work was not perfectly done.

The land on which Mr. Peabody ploughed was of varied texture, a part of the land being very good land to plough, and was well done; a part being full of small stone, which made it impossible to make good work with a single team; and still another part of the land having a tough sod, producing a sort of water grass or hassocks. The heavy rains of the past week rendered the land in very good condition to plough.

Mr. Peabody had a good plough, the Hussey, No. 15, and evidently knew how to hold it. He managed to get the required depth of six inches on all his land, and where the land was good from 7 to 8 inches in depth. Taking it as a whole, the work was very well done.

His team weighed about 3150 lbs., and was well trained, and perfectly under the control of the ploughman. The

Digitized by Google

nature of the soil was such that a double team, and a heavier plough would have done much better work.

The Committee regret very much that there were not more entries, by which we could have compared the working of the different competitors.

Horace C. Ware, Albert Kimball, Alvin Smith, William Bradstreet.—*Committee.*

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses, report that there were seven entries for premium, and they recommend the award of the following premiums:—

To R. S. Bray, (Wm. E. Young, ploughman), of Newbury, the first premium, $12.

To T. O. Wardwell, North Andover, second premium, $10.

To Paul T. Winkley, Jr., Newburyport, third premium, $8.

To Patrick Kiely, Hamilton, fourth premium, $6.

To Chas. N. Maguire and Moses H. Poor, West Newbury, fifth premium, $4.

Jos. S. Howe, *Chairman.*

PLOUGHING—SWIVEL PLOUGH.

The Committee on Ploughing with Swivel Plough, in making their report, would say that five teams were entered for premium, viz., two ox teams and three horse teams.

Horse teams entered were Edward P. Perley, two horses; plough used, Pettingell, No. 3; and the Committee award to him the first premium of $10.

Jonas Rollins, of Danvers, used a Granger Plough, and we award to him the second premium of $6.; it was also a two horse team.

Oliver Stevens of North Andover, made the other entry. Mr. Stevens made very good work, and the committee would

Digitized by Google

have been very glad to make another award had they one at their disposal.

Ox teams entered were,—Charles Hazeltine, of Bradford, team, four oxen; plough used, was I. X. L., No. 8, and the Committee award him the second premium of $10.

Town of North Andover and B. K. Farnum entered one pair of oxen and one pair of steers; plough used was I. X. L. No. 6. Although the plough was smaller than Mr. Hazeltine's, yet it turned a larger furrow and did better work, as it appeared to the Committee. Mr. Hazeltine claimed that he ploughed deeper than the team from North Andover, yet the Committee failed to see much difference by measure; both complied with the rules of the Society, viz., 8 inches; and the Committee award to Town of North Andover and B. K. Farnum, the first premium, of $12

We were unanimous in all the above awards.

As the Committee looked over the field, and saw so much larger number of horse-teams than of ox-teams engaged in the ploughing match, they would recommend that one of the premiums now offered for ox-teams be hereafter offered for horse-teams; that is, three premiums for ox-teams and also three for horse-teams. This recommendation only applies to Swivel Plough premiums. Respectfully submitted,

Abel Stickney, Otis F. Putnam, Abel S. Harriman.—*Committee.*

PLOUGHING WITH FOUR HORSES.

The Committee award as follows:—

To H. F. Nason, West Newbury, first premium, $10; Land Side Oliver Chilled Plough.

To Wm. A. Russell, Lawrence, first premium, $10; Swivel Plough, Matchless, No. 8.

A. L. Moore, J. N. Rolfe, J. E. Herrick.—*Committee.*

Digitized by Google

SULKY PLOUGHS.

The Committee award as follows:—

To Frank Perkins, Newbury, with Cassady Plough, first premium, $10.

To Geo. G. Creamer, Hamilton, with Wiard Plough, second premium, $5.

There were two entries, the "Wiard," by George J. Creamer of Hamilton, and the "Cassady," by Frank Perkins of Newbury. We awarded the premium to Mr. Perkins for the Cassady, but if the Wiard had finished its dead furrow as well as it performed the rest of its work, the result might have been different. The Cassady seemed of easier draft than the Wiard, but did not turn the furrow so well, leaving it up on its edge, which is a very objectionable feature. The lots were very rough and stony, but neither of the ploughs were thrown out by the stones, the weight of the operator keeping the ploughs down where they belonged. After the trial was over, your committee requested Mr. Richard S. Jaques, the veteran ploughman, who has taken more first premiums than any other member of the society, to turn one furrow, that we might see his "Lion" plow, and four ox team, in direct competition with the "Sulky," and one pair of horses. Mr. Jaques' plow was thrown out, at least, a half dozen times, and the draft was certainly very much harder, and yet his furrow was not so wide by three or four inches. Said Mr. Jaques, after completing his furrow: "The 'Sulky' is the plough of the future, without doubt." Whilst agreeing fully with Mr. Jaques, of its being the plough of the future, we would not be understood as recommending it to be particularly adapted to the wants of the large majority of our Eastern farmers. In fact, in its present state or condition, it is not, for the advantages it possesses over the common plough, are more than overbalanced by some of its disadvantages. The high price alone, places it beyond the reach of most of us—the wear and tear on a Sulky and the interest on its cost, ($50.00), would hire the most of the

Digitized by Google

ploughing done by our ordinary farmers—then the storage takes too much room. Until these, and some of the minor objections, such as the inability to plough close to a wall, or even to a tree in the centre of a field, are removed or modified, your committee would not advise any farmer to purchase a Sulky plough, unless he first tries and proves its superiority and adaptability to his own farm. Respectfully submitted,

Horace F. Longfellow, Albert S. Brown, Frank Marsh, Asa T. Newhall, Sidney F. Newman.—*Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements have attended to their duty and report as follows:—

For best collection of Agricultural Implements, Fellows & Co., Haverhill, first premium, $15.

Hanscom Bros., Haverhill, gratuity, $10.

American Evaporator, Henry Merrill, West Newbury, gratuity, $5.

Everett & Small, Cooly Creamer, Swing Churn, Seed Drill, gratuity, $5.

Henry Newhall, Boxford, Ox and Horse Shoes, gratuity, $3.

John L. Shorey, David Warren, David W. Low.—*Committee.*

CARRIAGES.

The Committee report:—

To E. P. Sargent, Merrimac, for carriages, Diploma and $15.

T. W. Lane, Amesbury, Buggy and Springs, gratuity, $10.

To C. S. Hill, No. Andover, Express Wagon, gratuity, $6.

To G. E. Daniels, Rowley, Express Wagon, gratuity, $4.

Thomas K. Leach, David Smith, H. H. Spofford.—*Committee.*

Digitized by Google

DAIRY.

The Committee on Dairy submit the following report, viz.:

BUTTER.

First premium, Mrs. S. A. Stewart of Middleton, $10.

Second premium, F. W. Poore, of Haverhill, $8.

Third premium, S. L. Ridgway, of West Newbury, $6.

Fourth premium, A. L. Hazeltine of Haverhill, $4.

Under Sec. 4, for greatest produce of Milk, &c., to F. P. Todd, of Rowley, they award $25.

John A. Putnam, H. K. Moody, Andrew Lackey, Aaron Sawyer.—*Committee.*

STATEMENT OF FRANK P. TODD.

I enter for a premium for the greatest product of milk in proportion to the number of cows, not less than four in number, for one year from April 1, 1881 to April 1, 1882.

When I began to weigh the milk at each milking it was not with the object of a premium. My object was to ascertain the amount of milk a cow would give, also to ascertain the difference in cows. I thought we might have cows that would not pay for their keeping, and have continued weighing the milk to the present time, hoping by such means to make improvements in the herd, and by raising calves from the best milkers, crossed with an Ayrshire bull, as we consider the Ayrshire well adapted to our uses. The farmers in this part of the county are obliged to use a large proportion of salt hay, and I think a variety of feed is advisable, such as English and salt hay, and rowen, with corn and oat fodder; this, with some grain, will keep milch cows in fair condition, provided they have good care. I think they should be watered twice a day, when confined in the barn, and that it should be done immediately after eating, as they will drink more if they are not allowed to stand and chew the cud. They should not be allowed to stand out unless in mild weather, and then in the sun. They should be carded every day, and if so, it can be done easily and quickly.

Digitized by Google

The farmers in this vicinity suffer quite a loss every year on account of flies, particularly the *green heads*, as it is not uncommon for cows to shrink one-half in their milk, in July, from this cause. The following is a description of the herd, manner of keeping, and product:

Cow No. 1, is grade Ayrshire, age 12, calved March 6, 1881, bore twin calves; last calved, Feb. 7, 1882; and gave 5203 pounds of milk in the year.

No. 2, grade Ayrshire, age 9, calved Oct. 1, 1880; last, Aug. 18, 1881; due to calve, Nov., 1882; gave 5331½ pounds of milk in the year.

No. 3, grade Ayrshire, age 9, calved, Dec., 1880; last, Nov. 22, 1881; due to calve, Oct. 10, 1882; gave 4374 pounds of milk in the year.

No. 4, Native, age 13, calved Aug. 12, 1880; last, Aug., 1881; gave 4293 lbs. of milk in the year.

No. 5, Ayrshire, age 13; calved, Nov., 1880; last, Nov. 24, 1881; due Dec. 21, 1882; gave 5908 pounds of milk in the year.

No. 6, Grade Ayrshire, age 6; calved, April 8, 1881; last, July, 1882; gave 5877 pounds of milk in the year.

No. 7, Native, age 14; calved, March 23, 1881; farrow; gave 6366 pounds of milk in the year.

No. 8, Native, age 7; calved Jan., 1881; last, Jan., 1882; due, March, 1883; gave 5874 pounds of milk in the year.

No. 9, Grade Ayrshire, age 5; calved, Sept., 1880; last, Oct, 6, 1881; due, Oct., 1882; gave 5495 pounds of milk in the year.

No. 10, Native, age 6, last calved, Nov. 10, 1881, by accident before her time; gave 4933 pounds of milk in the year.

No. 11, Grade Ayrshire, age 2½ years; calved Feb., 1881; last calved, July, 1882; gave 4426 pounds of milk in the year.

April, 1881. The cows have been fed with salt hay in the morning after milking, English hay at noon and before milking in the afternoon, and salt hay at night. Three quarts of cob

Digitized by Google

meal and four quarts of shorts have also been fed daily. The eleven cows have given during the month, 5973 pounds of milk.

May, Feed the same as in April, except that after the 20th, they had no hay or grain, but only grass. The eleven cows gave 6378 pounds of milk during the month.

June. Feed, grass. The eleven cows have given 6166 pounds of milk during the month.

July, Feed, grass. The eleven cows have given 4518 pounds of milk during the month.

August. Feed, grass. The eleven cows have given 4291 pounds of milk during the month.

September. Feed, corn fodder after coming from the pasture, and in addition, one peck of windfall Baldwin apples, daily. The eleven cows gave 4383 pounds of milk during the month.

October. Feed, same as last month. The eleven cows have given 3848 pounds of milk during the month.

November. Feed in the field till the 22d; after, salt hay, corn and oat fodder, and 2 quarts cob meal and 4 quarts shorts, daily. The eleven cows gave 3563 pounds of milk in the month.

December. Feed, hay as last month, with two quarts cob meal, 4 quarts of shorts and 1 quart cotton seed meal daily. The eleven cows gave 4638 pounds milk in the month.

January, 1882. Feed same as last month. The eleven cows have given 4843 pounds of milk in the month.

February. Feed same as last month, except that they have had 2 quarts of cob and 2 quarts cotton seed meal daily. The eleven cows have given 4921 quarts of milk during the month.

March. Feed same as last month, with the exception of an addition of a feed of rowen, daily. The eleven cows have given 6244 lbs. of milk in the month.

Total number of pounds of milk given by each cow, for the year ending April 1, 1882:—Cow No. 1, 5133 lbs.; No. 2, 5220 lbs.; No. 3, 5546 lbs.; No. 4, 4993 lbs.; No, 5, 5908 lbs.;

Digitized by Google

No. 6, 6518 lbs.; No. 7, 6366 lbs.; No. 8, 5874 lbs.; No. 9, 4790 lbs.; No. 10, 4858 lbs.; No. 11, 4426 lbs. *Total*, 59,635 lbs. Average per cow, 5421 lbs.—including No. 11—the heifer; excluding No. 11, average 5963 lbs., or 2806 quarts, each.

Average number of cans of 8 1-2 qts., from each cow,	331
Average price per can for the year,	25 1-2 cts.
Income from each cow,	$82.75

Estimated cost of keeping cows for the year, each:—

1½ tons Salt Hay,	$16.50	
½ ton Corn Fodder,	6.00	
½ ton English hay,	10.00	
Pasture,	10.00	
Corn Fodder and fall feed,	5.00	
Grain,	15.00	62,50
Profit,		$20.25

BREAD, HONEY AND CANNED FRUITS.

Your Committee had under their consideration in this department 35 entries; 21 loaves of Bread, 4 entries of Honey, 8 of Canned Fruits, 1 of Jelly and 2 of Pickles, from 30 contributors, for which the Committee make the following awards:—

BREAD.

To Mrs. Abby Green, Salisbury, first premium,	$3.00
Miss Nelly Connelly, Haverhill, second premium,	2.00
Miss Agnes Welch, Bradford, third premium,	1.00
Mrs. D. R. Parker, Groveland, gratuity,	.50
Mrs. John Day, Boxford, gratuity,	.50
Miss Bertha Bradley, Haverhill, gratuity,	.50
Mrs. Littlefield, Haverhill, gratuity,	.50

HONEY.

To H. Alley, Wenham, first premium,	$3.00
Alfred Green, Salisbury, second premium,	2.00
E. B. Ayer, Haverhill, gratuity,	.50
F. W. Poor, " "	.50

Digitized by Google

DRIED APPLES.

To Mrs. John Day, Boxford, first premium, $3.00

CANNED FRUIT.

To Mrs. George W. Ladd, Bradford, first premium, $3.00
Mrs. J. M. Littlefield, Haverhill, second premium, 2.00
Mrs. M. E. Fuller, Middleton, copy, "Birds of N. E."
Mrs. N. E. Ladd, Groveland, copy, "Birds of N. E."
E. P. Fowler, Haverhill, gratuity, .50
Mrs. S. P. Bradley, gratuity, .50

PICKLES.

To M. E. Fuller, Middleton, gratuity, .50

JELLY.

To Mrs. G. W. Ladd, Bradford, gratuity, .50

Mrs. Charles Perley, Mrs. J. Henry Hill, Mrs. P. B. How.
—*Committee*

STATEMENT OF MRS. GEO. W. LADD.

Cucumber Pickles.

Rinse clean ½ bushel of cucumbers, then add a large pint of salt and cover with hot water; repeat this for three mornings, then pour into a basket to drain, place them in a tub and cover with good cider or weak vinegar, to which has been added one teaspoonful of powdered alum to every gallon. This should be poured over the cucumbers boiling hot, and repeated three mornings, then drain and pack in stone jars, with ten good sized peppers, (cut open), cover with cold vinegar to which has been added one tablespoonful of cloves, one of cassia, and one of allspice, and they are ready for use in two days. Pickles made in this way will keep two years without changing the vinegar.

Jelly.

All kinds of Berries, Currants, &c., I place in a preserving kettle and add just water enough to prevent burning. Let them cook slowly until the goodness is extracted from the

Digitized by Google

fruits, then place a seive over an earthen vessel, and pour the fruit into this to drain. Then strain the liquid, and to every pint of juice, add one pint of granulated sugar, place it in a preserving kettle and boil until it becomes jelly. I cannot give any stated time, as it takes much longer for some kinds of fruits than for others. When sufficiently cooked strain into tumblers and cover when cool. Jelly made from Apples, Pears, Peaches, Plums, Rhubarb, Crab Apples, Oranges, Pine Apples, &c., &c.; the fruit should be peeled and cut into small pieces, then placed in a preserving kettle and covered with water and cooked until very soft, and drained through a seive. Place the liquid in a preserving kettle, and boil thirty minutes, then strain, and to every pint of juice add one pint of granulated sugar. Then cook until it becomes jelly. I never use gelatine in any kind of fruit jelly.

Canned Fruits.

My method of canning fruits is this:

As the season of ripe fruits advances, I prepare such quantities of syrup as I think I may need, in this way :—Three pounds of granulated sugar to one gallon of water and boil twenty minutes; this I put in glass jars, when cool, and set away for future use.

Peaches, Pears, Apples, Plums, Pine Apples, Rhubarb, Crab Apples, and in fact all fruits of this kind, I peel, quarter and place in a dish of cold water (to prevent discoloration), until I have prepared enough to fill a jar; I then pack them solid as possible in a jar; then fill the jar with the syrup previously prepared. I then place a wire stand in the bottom of my preserving kettle, on which to place the jar, then fill the kettle with cold water, until the jar is two-thirds covered; leave the jar open, but cover the kettle, and boil until the fruit is sufficiently soft; have ready a little boiling syrup, if needed, to fill the jar full to overflowing. Then place the rubber band around the neck of the jar and screw the cover on as tightly as possible, then in from three to five minutes give the

Digitized by Google

cover another turn, in order to be sure it is air-tight, and you will have no more trouble with it.

I use Mason's Jars, metalic porcelain covers.

Berries and Small Fruits.

My method of canning all kinds of berries and small fruits is this. Place the fruit in a preserving kettle, and then add just water enough to prevent burning, and boil from five to ten minutes, then place a wet towel around and under the jar, then fill the jar with the boiling fruits and seal immediately. I do not use any sugar until I open them for the table. The present year I have canned one hundred and fifty jars, and have not broken a single one.

STATEMENT OF MRS. N. E. LADD.

Experience teaches that the *surest* way of canning fruit successfully, is to place the fruit in jars, sweeten to taste, then put the jars in a kettle of cold water, gradually heating until it boils; when the fruit is sufficiently cooked, turn on the covers while in the boiling water, having the jars so full that the juice will run over as the covers are screwed on.

Pears and peaches can be put up in this way, with no liquid but their own juice.

STATEMENT OF M. E. FULLER.

For Peaches and Pears. I throw the fruit into cold water as soon as the skins are removed, then add to the quantity for filling one quart jar about three tablespoonfuls of sugar; let this cook slowly until done, which usually takes about twenty minutes, then heat jar and fill while hot, letting cover remain off about five minutes after filling. For berries I do the same, only less water; and other fruits usually more sugar, according to the tartness of the same.

STATEMENT OF MRS. A. J. GREEN.

The Bread I exhibit is made as follows:—Two quarts of

Digitized by Google

cold water, two cups of yeast, (common potato yeast used), flour (St. Louis) to mold, raised over night, kneaded about fifteen minutes in the morning, made into loaves, and allowed to rise about one hour before baking. The bread exhibited is twenty-four hours old.

STATEMENT OF HENRY ALLEY.

To Committee on Bees, Honey, etc.,

The Honey I exhibit is a part of what one strong hive of bees stored this season. It was mostly gathered from white clover, but is of rather a poor quality, as compared with that gathered some seasons. The extracted honey was taken from the body of the hive, and removed from the combs by the extractor, and is a mixture of white clover and apple blossoms. It is a fair quality of honey, considering the season. No fall honey was gathered until the 18th, 19th, and 20th of September, as that was all stored in the brood combs in the main hive or brood nest. I do not exhibit any of it as I do not care to disturb my bees so late in the season.

The hives I use are what are known as the "Langstroth Movable Comb Hive." This style hive is considered the best in use, and certainly is the best one for surplus honey. I had in the spring 38 of these hives in use, but have reduced my number of colonies to 28, by sale and otherwise. The hive the comb honey was taken from stored about fifty pounds surplus. This one hive (a strong colony of Cyprian bees) was two and a half miles away from my home apiary and in a favored locality, there being no other bees within two and a half miles of them, and that is why they stored 50 pounds more honey than my other stock. This one colony is the only one that stores anything in boxes. Most of my bees are used for rearing queen bees. Have raised and sold about 800 queen bees, at an average price of $1.25 each. Most of these queens are shipped by mail, and they go safely into every state in the Union. I exhibit the cages, or boxes, that they are sent in.

Digitized by Google

The little hive of bees is to show and exhibit the three sexes of bees found in all hives from May to October. The queen is the mother of all; she lays all the eggs. The worker bees gather the honey pollen and feed the young. The drone is the male bee and the largest bee, and is stingless.

STATEMENT OF MRS. JOHN DAY.

I present for your inspection two varieties of dried apples—Baldwin and Porter—six pounds or more. The apples were pared with an apple parer, cut by hand and strung and dried in the open air. Three bright sunny days will dry then sufficiently.

PEARS.

For the best twelve specimens of the following varieties:—

Bartletts, Herbert B. Kimball, Bradford,	$3.00
Bell Lucrative, W. W. Perkins, Newbury,	3.00
Beurre Bosc, Henry Alley, Wenham,	3.00
Buerre de Anjou, Herbert B. Kimball, Bradford,	3.00
Clapp's Favorite, J. Henry Hill, Amesbury,	3.00
Duchesse de Angoleme, John O'Brien, Bradford,	3.00
Dana's Hovey, J. H. Hill, Amesbury,	3.00
Glout Morceau, Z. C. Wardwell, Groveland,	3.00
Lawrence, J. O'Brien, Bradford,	3.00
Louise bon de Jersey, George E. Kimball, Bradford,	3.00
Onondaga, J. Henry Hill, Amesbury,	3.00
Paradise de Autumn, George Pettengill, Salem	3.00
Seckel, J. Lee, Haverhill,	3.00
St. Michael Archange, George Pettengill, Salem,	3.00
Sheldon, George E. Kimball, Bradford,	3.00
Urbaniste, W. W. Perkins, Newbury,	3.00
Vicar of Winkfield, George Pettengill, Salem,	3.00
Winter Nellis, C. P. Savory, Groveland,	3.00
Mt. Vernon, John Lee, Haverhill,	3.00

Digitized by Google

For best dish of twelve specimens, deemed worthy by the Committee, premium awarded as follows:—

Souvenir de Congress, John O'Brien, Bradford,	$1.50

For best collection of largest number of varieties recommended for cultivation in Essex County, premiums awarded as follows:—

Edwin V. Gage, Bradford, first premium of	8.00
T. C. Thurlow, West Newbury, second premium of	6.00
J. Henry Hill, Amesbury, third premium of	4.00

Gratuities awarded as follows:—

M. M. Ridgway, Vicar of Winkfield, West Newbury,	$1.00
George Fisk, Newbury, Bartletts,	1.00
J. J. Marsh, Haverhill, Beurre Diel,	1.00
Albert Kimball, Bradford, Doyenne Bossock,	1.00
C. P. Savory, Groveland, Beurre Superfin,	1.00
E. F. Curtis, Groveland, Swan's Orange,	1.00
George E. Kimball, Bradford, Seckel,	1.00
H. W. Balcomb, Salem, Sheldon,	1.00
Z. C. Wardwell, Groveland, Onondaga,	1.00
C. P. Savory, Groveland, Lawrence,	1.00
J. J. Marsh, Haverhill, Buerre de Anjou,	1.00
T. C. Thurlow, West Newbury, Dutchess,	1.00
John Lee, Haverhill, Beurre Bosc,	1.00
John Lee, Haverhill, Bartletts,	1.00

C. W. Killam, Boxford, Flemish Beauty, "Birds of New England."

R. Webster, Haverhill, for collection, gratuity of $1.00.

W. H. B. Currier, Peter M. Neal, George Pettengill, E. P. Hale.—*Committee on Pears.*

APPLES.

12 best specimens of the following, $3 each:

Baldwin, B. F. Huntington, Amesbury; Danvers Winter

Digitized by Google

Sweet, S. B. George, Groveland ; King of Tompkins Co., John Taylor, Amesbury ; Granite Beauty, J. Henry Hill, Amesbury ; Talman's Sweet, Wm. W. Perkins, Newbury ; Bailey Sweet, J. Henry Hill, Amesbury ; Drap'd Or, S. M. Titcomb, West Newbury ; Hubbardston Nonsuch, Geo. W. Chadwick, W. Boxford ; Porter, B. Flanders, Haverhill ; Roxbury Russet, D. M. Cole, W. Boxford ; R. I. Greening, Geo. W. Chadwick, W. Boxford ; Sweet Baldwin, Chas. Perley, W. Boxford ; Gravenstein, D. M. Cole, W. Boxford ; Hunt's Russet, S. B. George, Groveland.

$1.50 each to Geo. W. Chadwick, Boxford for Late Harvest ; T. G. Ordway, West Newbury, for Beefsteak ; J. H. Hill, Amesbury, for Washington ; J. N. Rolfe, Newbury, for 20 oz. Pippin.

Best collection of Apples, recommended for cultivation in Essex Co., E. A. Emerson of Haverhill $8 ; second best collection, W. H. Morse, Haverhill $6 ; third best collection, J. Henry Hill, Amesbury, $4.

Best Crab Apples, Mrs. E. F. Curtis, Groveland, $1.50 ; Chas. Perley, Boxford, $1.50 ; Richard Webster, Haverhill, $1.50.

Best collection Crab Apples, three varieties ; J. Henry Hill, Amesbury, $5.

Gratuities of $2 each to W. Parker, Groveland ; John O'Brien, Bradford ; Z. C. Wardwell, Groveland.

Gratuities of $1.50 each to Wm. W. Perkins, Newbury ; B. F. Huntington, Amesbury ; T. K. Bartlett, Newburyport ; Amos Hazeltine, Haverhill.

Gratuities of $1. each to S. B. George, Groveland ; Thos. J. King, West Newbury ; S. F. Newman, Newbury ; S. P. Currier, East Haverhill ; E. L. Sides, So. Groveland ; E. B. George, Groveland ; J. Henry Hill, Amesbury ; Andrew Lackey, Haverhill ; Frank Perkins, Newbury ; Daniel Plummer, Newbury ; W. P. Horner, Georgetown ; Geo. W. Sargent, Merrimac ; Moses H. Poor, West Newbury ; Geo. W. Titcomb,

Digitized by Google

West Newbury; S. P. Bradley, Haverhill; M. M. Ridgway, West Newbury; J. A. Hoyt, Georgetown; A. Very, Danvers; O. Dow, Methuen.

T. C. THURLOW, *for the Committee.*

PEACHES, GRAPES AND ASSORTED FRUITS.

The Committee award as follows:—

To G. W. Gage, Methuen, for Concord, Worden, Cottage, and Rogers' 39, premiums of $3 each, $12.00

To G. W. Gage, for collection of Grapes, premium, 7.00

G. W. Gage, for basket of Assorted Fruit, premium, 4.00

T. H. Watson, Groveland, Brighton Grape, premium, 3.00

E. Greenough, Groveland, Hartford Grape, premium, 3.00

Moses B. Abbott, Andover, Isabella Grape, premium, 3.00

W. H. Hopkinson, Groveland, Delaware Grape, prem., 3.00

T. C. Thurlow, W. Newbury, Martha Grape, premium, 3.00

Geo. S. Smith, Haverhill, Moore's Early " " 3.00

Mrs. Lewis Verry, Danvers, Massasoit " " 3.00

J. J. Marsh, Haverhill, Cold House " " 6.00

Allen Barr, Lawrence, 4 varieties of Grapes, copy of Birds of New England.

To R. Goodwin, Haverhill, Hartford and Concord Grapes, gratuity, $2.50

To John Lee, Haverhill, Lee's Early Grapes, gratuity, $1.50

James Leach, Haverhill, Grapes, gratuity, 1.00

John O'Brien, Bradford, Concord Grapes, gratuity, 1.00

Charles Atkinson, Haverhill, Seedling Grapes, gratuity, 1.50

Daniel Webster, Haverhill, Lombard Plums, gratuity, 2.00

J. HENRY HILL, *Chairman.*

FLOWERS.

Andrew Lackey, Dahlias; E. N. Jaques, Asters; Geo. O. Thurston, Gladiolus; J. J. H. Gregory, Zinnias; Mrs. M. P.

Digitized by Google

Nichols, African Marigold; Frank Anderson, French Marigold; Mrs. M. P. Nichols, Pot Marigold; Geo. O. Thurston, Lilliputian Dahlais; Mrs. M. N. Hatch, Drummond Phlox; M. P. Nichols, Mourning Bride; E. N. Jaques, Balsams; Annie R. Dodge, Nasturtiums; Mrs. C. M. Webster, Pansies; E. N. Jaques, Eternal Flowers; Geo. H. Hill, Pinks; Mrs. E. J. M. Hale, Palm, premium $1. each. Chas. McLaughlin, best display, premium $4.00. Mrs. E. N. Jaques, collection cut flowers, gratuity, $3; Hattie Potter, Wild Flowers, gratuity, $1.50; Mrs. C. M. Webster, dish flowers, gratuity, 50 cents; Mrs. C. F. Morse, boquet, gratuity 50 cents; M. W. Hatch, boquet, gratuity, $1; G. H. Hill, Crazy Cushion, gratuity, $1; S. H. Harris, basket flowers, gratuity, $1; S. L. Bradley, boquet, gratuity, 50 cents; C. F. Morse, Night Blooming Cereus blossoms, gratuity, 50 cents; Albert Green, Dahlia boquets, gratuity, $1; Albert Green, Coxcomb, gratuity, 50 cents; A. R. Dodge, boquets, gratuity, $1.50; Geo. O. Thurston, boquet, gratuity, $1; Newton Jaques, Pot Plant, gratuity, 50 cents; A. R. Dodge, Pot Asters, gratuity, $1; A. R. Dodge, Wild flowers, gratuity, $1; T. C. Thurlow, Collection Foliage and Lilies, "Birds of New England"; Geo. O. Thurston, Amaranthus Sunrise, gratuity, 50 cents; Mary Austin, W. Boxford, gratuity, $1; Mrs. Alpheus Currier, Night Blooming Cereus, gratuity, $1; Mrs. C. B. Emerson, Ivy, gratuity, $2; Geo. O. Thurston, collection of plants, gratuity, $3; A. R. Dodge, Japanese Maize, gratuity, 50 cents; C. F. Morse, Century plants, gratuity, $2; Rebecca Carlton, parlor boquets, premium, $3; Shirley Ladd, Native Flowers, premium, $3; A. R. Dodge, hand boquets, premium, $2; Geo. H. Hill, floral design, premium, $2; Mrs. J. Henry Hill, cut flowers, premium, $2; E. & C. Woodman, floral design, gratuity, $1; Mrs. J. H. Webster, Violets, gratuity, 50 cents.

Charles McLaughlin, Mrs. N. E. Ladd, Mary L. Dodge.—*Committee.*

Digitized by Google

VEGETABLES.

This Society made announcement for the Fair in Danvers in 1835, that "a convenient room will be furnished for the Exhibition of Fruits and Flowers, and a committee will be appointed to examine and report upon the same. All who are interested in improving the Horticulture of our county, are invited to lend their aid to this part of the exhibition, which, it is hoped, will be charming to the eye, and delicious to the taste."

The committee of that year reported that "there were exhibited forty varieties of apples, twenty varieties of pears, quinces, etc., a variety of grapes, native and foreign. Fine specimens of the vegetable marrow squash, exhibited by Benjamin Goodrich and others, of which they say, 'This excellent squash ought to be generally known and cultivated by farmers. Great care must be taken to prevent it from mixing with other squashes and pumpkins, especially with the blue African Squash, with which it is much disposed to *amalgamate*, and lose, in great increase of size, its peculiarly valuable qualities.' Some very large crookneck squashes, pumpkins, the real citron melon, for preserving, exhibited by S. Driver, and a variety of other vegetables by Edward Lander and others. A great variety of beautiful flowers including fifty specimens of Dahlias were exhibited." The whole amount awarded for Fruits, Flowers and Vegetables was $13 in gratuities.

Garden vegetables were so little thought of at that time that the Society could not even add the name of Vegetables to the title of the "Committee on Fruits and Flowers," in whose charge they seemed to be then placed, which led subsequent committees, we should judge, to not recognize them as belonging to them.

In 1836 the committee awarded $9.50 for fruits, flowers, and vegetables, (vegetables receiving $5 of it), for sugar-beets and onions, crookneck squashes, and onions, best autumnal marrow squashes, specimens of a large lot of African

Digitized by Google

squashes, and for the Plelermy Squash. You thus see what was the introduction of what are now the most attractive and important departments of our annual exhibition, and which are now placed under five separate committees, who awarded in 1881, $273 for Fruits, $48 for Flowers, and $138 for Vegetables.

From 1837 to 1842, it is uncertain from the reports what amount was awarded for vegetables, as the exhibitors receiving awards also had fruits or flowers, and what the award was for, is not mentioned. We find, however, that in 1839 there were 17 exhibitors of vegetables from 14 towns. In 1842 the Fruit and Flower committee seem to have completely ignored vegetables, as they are not mentioned in their report and received no award, resulting however, favorably for the vegetable department, for the following year a special committee on vegetables was chosen, of which Allen W. Dodge was chairman; and the report of the transactions of the society of that year contain the first published report, on Vegetables alone, and contains the names of 20 exhibitors, from nine different towns, to whom $8.25 in gratuities were awarded. The chairman reported, that the exhibition was defective in variety—the whole tribe of tap roots being represented by a solitary turnip, and that seemed to belong to no particular owner, though from its dimensions it gave evidence of good cultivation; of beets and carrots there were no specimens. The squash tribes were fully represented.

In 1846, at Lynn, the Committee on Fruits and Flowers again had charge of them who awarded $6 to 15 exhibitors; and in 1847 and 1848 nothing was awarded and no mention made of them. In 1850, Horace Ware, chairman of "Committee on Vegetables," reported that the exhibit was unusually large and fine, $17.50 in gratuities being awarded to 35 exhibitors from 13 towns. In 1852, the "Committee on Vegetables," Henry Wheatland, chairman, who had only $10 to award in gratuities, to 31 exhibitors from 10 towns, in their report say, "They sincerely trust that this department will

Digitized by Google

receive from the trustees, another season, more encouragement than has heretofore been so sparingly bestowed. They would respectfully suggest to the trustees, the expediency of establishing certain premiums to be awarded at the annual exhibition, for the best display of vegetables; also for that of particular kinds, as of beets, squashes, or the like, and for the introduction of any new variety or varieties, which, upon trial, shall prove worthy of general cultivation."

The result of their appeal for more encouragement in this department was manifested in 1853 by $30 being offered in gratuities, causing a great increase in the number of exhibitors. It was not, however, until 1855, that the above suggestions were adopted in part, by the Trustees, when they offered three premiums, $10, $8 and $6 for the three best general collections, with $30 more for gratuities. Henry Wheatland, whose suggestions had brought it about, being again chairman of the Committee, whose report is an able and interesting one. The exhibitors increased from 68 the previous year to 98 in 1855, showing that a premium list increased the interest in this department nearly 50 per cent.

In 1868 the number of premiums for collections, were increased to four, amounting to $36, with $46.50 awarded in gratuities. Allen W. Dodge, the chairman of committee of that year stating that "it was the largest and best ever exhibited." The best collection of that year had over one hundred varieties. We find in his report, our own thoughts better expressed, and we quote them as suited to the exhibition of the present year, although the inducements are greater for exhibitors now than then. Speaking of the growing interest in this department, the report says, "This interest has been manifested not only by those who have visited the halls of exhibition, but by the cultivators, who have with commendable pride and public spirit, and at considerable cost, often far greater than the amount they have received in premiums, sent in their choicest products. Some have taken great pains to exhibit a few vegetables or even specimens of a single variety,

Digitized by Google

feeling, as it would seem, that the Society and the public have claims upon them which they must recognize. This feeling, it is to be hoped, will become more and more prevalent, not only among individuals, but towns and communities." That report also recommended, as Mr. Wheatland had thirteen years previously, that premiums be awarded for a given number of certain varieties. That same year premiums of $15 were awarded for vegetables raised by boys, of which committee, George B. Loring was chairman.

In 1869, with the able and instructive report of that year, which was such as to entitle the same to the first premium of the Society for best report of committees, the details giving name, residence and award to exhibitors was not printed in the Society's transactions of that year, thus making a break in the records of this department. The amount awarded in premiums and gratuities that year was $60.50.

In 1870, at Ipswich, $46 was awarded in 22 premiums with $25.50 in gratuities, this being the first year separate varieties are reported as awarded premiums. There were 54 exhibitors and the awards went to 14 different towns or cities. In 1871 at same place, the number of exhibitors increased to 89, showing the wisdom of the recommendations of the committees of 1852 and 1868. From that time the quality of the vegetables exhibited show marked improvement.

That those interested may have a table of reference in this department, the following tabulated statement is made of it, from its beginning, awards of books not being included in the amount of awards, and blanks left for years which the writer was unable to obtain the report to refer to, which blanks can be filled by those having them.

Digitized by Google

STATEMENT

showing the Year, Place, Exhibitors and Awards in Vegetable Department.

Year.	Place of Exhibition.	Number of Exhibitors.	Number of Towns.	Premiums Awarded.	Gratuities Awarded.
1835	Danvers, So. Parish,				Not defined
1836	do.	*5			5
1837	Topsfield,	15			2½
1838	do.	*16			Not defined
1839	Georgetown,	17	14		"
1840	do.	14			"
1841	do.	16	14		"
1842	Andover,	†			
1843	do.	*20	‡9		8¼
1844	Ipswich,				
1845	do.	*23	‡8		10
1846	Lynn,	*15			6
1847	do.	†			
1848	do.	†			
1849	Salem,				
1850	do.	*35	13		17½
1851	do,	34	14		
1852	Lawrence,	31	10		10
1853	do.	52	12		30
1854	do.	68	12		
1855	Haverhill,	98	16	24	38
1856	Newburyport,	100	17	18	76
1857	do.	97	18	24	81
1858	Danvers,	60	18	24	26
1859	do.				
1860	South Danvers,	47	‡8	18	37¼
1861	do.	*30	‡11	18	20
1862	Georgetown,	*17		8	12½

* Number to whom awards were made.
† Vegetables, no report, no awards.
‡ Number receiving awards who resided where the exhibition was held.

Digitized by Google

Year.	Place of Exhibition.	Number of Exhibitors.	Number of Towns.	Premiums Awarded.	Gratuities Awarded.
1863	Andover.	30	‡7	8	20
1864	Lawrence,	47	‡5	6	14
1865	do.	*34	‡11	18	21
1866	Haverhill,	43	‡12	18	50½
1867	do.				
1868	Newburyport,	*38	‡13	36	46½
	to boys	*4	‡3	15	
1869	do.		Not published.		
1870	Ipswich	54	‡14	46	25½
1871	do.	89		46	20
1872	Gloucester,	36		46	28
1873	do.	*30	‡12	55	21
1874	Danvers.				
1875	do.	85		123	22
1876	do.	75	13	130	24
1877	Lawrence	*40	‡14	110	21½
1878	do.	*58	‡18	105	45
1879	Lynn,	66	24	122	27
1880	do.	73	‡21	120	30
1881	Haverhill,	60	‡12	126	12
1882	do.	89	20	142	31½

At Haverhill this year, as per above statement, there were 89 exhibitors in this department of the Exhibition from 20 different towns and cities, an increase from 1881 of 29 exhibitors and 8 different towns and cities. The towns and cities represented by exhibitors were Amesbury 6, Andover 5, Boxford 5, Bradford 8, Danvers 4, Essex 1, Georgetown 2, Groveland 4, Hamilton 2, Haverhill 21, Lynn 1, Middleton 1, Newbury 4, Newburyport 1, North Andover 9, Peabody 1, Rowley 2, Salisbury 1, Topsfield 1, West Newbury 8, Unknown 2 ; their contributions of kinds being as follows, which are compared with the exhibit in Lynn in 1879.

* Number to whom awards were made.
† Vegetables, no report, no awards.
‡ Exhibitors receiving awards who resided where the exhibition was held.

Digitized by Google

Vegetable Department.	Lynn, 1879.	Haverhill, 1881.	
Kinds of Exhibit.	Number of Exhibitors.	Number of Exhibitors.	Number of Lots Exhibited
Beets,	11	15	21
Beans,	3	3	4
Cucumber	7	5	6
Corn, (Field),		25	30
Corn, (Sweet),	11	16	17
Corn, (Pop),		4	7
Cabbages,	12	8	13
Cauliflower,	3	3	3
Carrots,	7	8	11
Cranberries,	5	3	3
Celery,		2	3
Eggs,	1	1	1
Garden Seeds,	4	3	3
Gherkins,	1	1	1
Gourds,	1	1	1
Lettuce	1		
Melons,	6	8	19
Mangolds,	7	3	4
Martynias,	1	1	1
Onions,	16	16	22
Oats,	2	1	1
Okra,		1	1
Potatoes,	18	36	91
Parsnips,	2	7	8
Pumpkins,	2	4	4
Peppers,	2	4	5
Radishes,	1		
Rhubarb,		2	2
Rye,		2	2
Sage, (Green),	1	1	1
Sweet Marjoram, (Dry),	1	1	1
Squashes,	24	18	33
Sunflowers,	1	1	1
Tomatoes,	6	10	14
Turnips,	8	12	20
Wheat,	1		
Yams,	1		
Total,	167	226	354

Three hundred forty-seven lots vegetables besides those in one

Digitized by Google

large collection, the varieties of which were not specified on the Entry-book; three lots of Seed, and one lot of Eggs.

There was also an exhibit of "Green Mountain Odorless Fertilizer," the merits of which your committee did not judge upon.

For this, one of the best exhibits in the Vegetable Department of the Society, which, taking into consideration the long continued drought of this season, was remarkable for its quantity and quality, your committee, consisting of David W. Low, Gloucester; David Warren, Swampscott; Oscar Gowen, West Newbury and Edmund Gale, Amesbury; made the following awards:

OF PREMIUMS.

$8.00, best collection of Vegetables, B. F. Huntington, Amesbury.
6.00, second best collection, Danvers Hospital Farm, Danvers.
8.00, best collection of Field and Garden seeds grown in the County, Aaron Low, Essex, 125 varieties, seed of 1882.
5.00, second best, not awarded, see report.
3.00, best 12, Early Turnip Beets, J. Henry Hill, Amesbury.
3.00, best 12, Long Smooth Dark Blood Beets, M. F. Batchelder, Peabody.
3.00, best 12, Short Top Long Orange Carrots, Albert Emerson, Haverhill.
2.00, best 12, Short Horn Orange Carrots, C. H. Poor, Bradford.
3.00, best 6, Mangold Wurtzels, T. K. Bartlett, Newburyport.
3.00, best 12, Purple Top Flat Turnips, H. A. Stiles, Middleton.
3.00, best 12, Yellow Ruta Baga Turnips, Augustus Verry, Danvers.
3.00, best 12, White, not awarded, number of specimens not conforming to rules.
3.00, best 12, Parsnips, D. G. Todd, Rowley.

Digitized by Google

3.00, best peck, Danvers Yellow Onions, R. Goodwin, Haverhill.

3.00, best peck, Danvers Yellow Flat Onions, M. F. Batchelder, Peabody.

3.00, best peck, Danvers Red Onion, C. R. Anderson, North Andover.

3.00, best peck, Early Rose Potatoes, Eben Webster, Haverhill.

3.00, best peck, Beauty of Hebron Potatoes, Alfred Green, Salisbury.

3.00, best peck, Goodwin's Seedling Potatoes, R. Goodwin, Haverhill.

3.00, best peck, Clark's No. 1 Potatoes, G. L. Barker, North Andover.

3.00, best peck, Mammoth Pearl Potatoes, Alfred Green, Salisbury.

3.00, best peck, Dunmore Potatoes, Alfred Green, Salisbury.

3.00, best 3, Savoy Cabbages, Moses B. Abbott, Andover.

2.00, second best 3, Savoy Cabbages, S. F. Newman, Newbury.

3.00, best 3, Fottler's Drumhead Cabbages, S. F. Newman, Newbury.

2.00, second best 3, Fottler's Drumhead Cabbages, George G. Pierce, W. Newbury.

3.00 and 2.00, Stone Mason Drumhead, no premiums awarded.

3.00 and 2.00, Mammoth Drumhead, no premiums awarded.

3.00, best 3, Red Cabbages, Moses B. Abbott, Andover.

2.00, second best 3, Red Cabbages, Charles Perley, West Boxford.

3.00, best 3, Cauliflowers, Moses B. Abbott, Andover.

2.00, second best 3, Cauliflowers, M. F. Batchelder, Peabody.

2.00, best 4 roots Celery, Moses B. Abbott, Andover.

5.00, best 25 ears, Field Corn, E. G. Nason, West Newbury.

3.00, second best 25 ears, Field Corn, J. A. Hoyt, Georgetown.

Digitized by Google

2.00, third best 25 ears, Field Corn, Henry J. Stevens, North Andover.

3.00, best 12 ears in milk, Early Sweet Corn (Marblehead Early), Aaron Low, Essex.

3.00, best 12 ears in milk, Late Sweet Corn, (Stowell's Evergreen), S. H. Bailey, N. Andover.

3.00, best 25 ears, Pop Corn, Danvers Hospital Farm, Danvers.

3.00, best 3, Marrow Squashes, J. G. Chadwick, North Andover.

3.00, best 3, Turban Squashes, Geo. T. Smith, Haverhill.

3.00, best 3, Hubbard Squashes, C. R. Anderson, North Andover.

3.00, best 3, Marblehead Squashes, J. G. Chadwick, N. Andover.

3.00, best 3, Nutmeg Melons, Danvers Hospital Farm, Danvers.

3.00, best 3, Musk Melons, J. G. Chadwick, N. Andover.

2.00, best 3, Casaba Melons, no premium awarded.

2.00, best 2, Water Melons, E. Field, Bradford.

3.00, best 12, Tomatoes, (Acme), Aaron Low, Essex.

3.00, best 12, Tomatoes, (Essex Hybrid), Aaron Low, Essex.

3.00, greatest variety, no premium awarded.

3.00, best peck, Cultivated Cranberries, H. A. Stiles, Middleton.

2.00, second best peck, cultivated Cranberries, Mary H. Cole, West Boxford.

1.00, third best peck, not awarded.

OF GRATUITIES.

"Birds of New England," book of $5 value, for collection of Vegetables, Albert Emerson, Haverhill.

"Birds of New England," collection of Seed Beans and Potatoes, E. F. Webster, Haverhill.

$2.00, White Ruta Baga Turnips, Benjamin H. Farnham, North Andover.

Digitized by Google

1.00, Yellow Ruta Baga Turnips, S. H. Bailey, West Andover.
2.00, Savoy Cabbages, M. F. Batchelder, Peabody.
1.00, Mangold Wurtzels, Alex. Roberts, (boy), Haverhill.
1.00, Cucumbers, table use and pickling, T. G. Phillips, Bradford.
1.00, Green Herbs, M. F. Batchelder, Peabody.
2.00, Potatoes and Squashes, J. P. Newcomb, North Andover.
1.00, Celery (part bleached in drain tile), Wm. Hilton, Bradford.
2.00, Essex Hybrid Turban Squash, A. T. Newhall, Lynn.
2.00, Essex Hybrid and American Turban Squashes, Danvers Hospital Farm,
1.00, Beets, Sugar Pumpkins and Potatoes, Amos Hazeltine, Haverhill.
1.00, Vegetables, collection, R. Webster, Haverhill.
2.00, traces of Pop Corn, Geo. A. Coombs, (boy), Haverhill.
1.50, exhibit of Sweet Corn, D. G. Todd, Rowley.
1.00, Red Onions, (two varieties), A. T. Newhall, Lynn.
1.00, Field Corn, John Barker, North Andover.
1.50, Field Corn (raised on reclaimed pasture), Charles J. Peabody, Topsfield.
2.00, Field Corn, S. Longfellow, Groveland.
1.00, Rice Pop Corn, B. F. Eaton, Haverhill.
1.00, Cabbages, Chester Killam, Boxford.
1.00, Winter Rye, (yield 28 bushels to acre), F. G. Phillips.
1.50, display of Sorghum, and Oats on stalks, G. L. Barker, North Andover.
1.00, Green Peppers, L. B. Mitchell, Haverhill.

The collection of B. F. Huntington, which was awarded the first premium, consisted of 50 varieties of Vegetables and 10 varieties of Strawberry plants; comprising 4 varieties of Beets, 1 of Carrots, 6 of Melons, 3 of Onions, 17 of Potatoes, 1 of Winter Rye, 4 of Squash, 3 of Tomatoes, 4 of Turnips, 1 of

Digitized by Google

Field Corn, 1 of Pop.Corn, 1 of Marblehead Sweet Corn, 2 of Peppers, 1 of Parsnips, 1 of Rhubarb, and 10 varieties of Strawberry Plants growing in pots.

The collection awarded the second premium, that of the Danvers Hospital Farm, consisted of 23 varieties, comprising 3 of Squashes, 2 of Beets, 2 of Cabbages and one each of Beans, Carrots, Okra, Peppers, Pop-Corn, West India Gherkins, Cucumbers, Parsley, Gourds, Potatoes, Rhubarb, Tomatoes, Turnips, Martynias, Melons and Parsnips; also thirteen additional lots were entered for special premium competition.

Your committee decided that the twenty-two varieties of Beans, so excellent in quality, raised by E. F. Webster of Haverhill, could not properly be awarded the second premium for Field and Garden Seeds, they being that of one kind of vegetable. Mr. Webster also exhibited five varieties of Potatoes of merit. For information how vegetables are cultivated in Essex County, your committee would call attention to report of 1879 on that subject.

We have the same fault to find as other committees have before us, that exhibitors do not conform with the rules of the society as regards number of specimens, or quantity required, size, weight, etc., if they intended they should compete for premiums. If not, exhibitors should enter them "not for premium." Some of the vegetables of the best quality could not be awarded premiums because their exhibitors did not conform to the rules.

It is useless for the exhibitor of a *bushel* of any product to expect the premium offered for *a peck;* or 13 to 15 of a product when 12, *no more* and *no less*, are required; or expect it for squashes, potatoes and other vegetables of mammoth size, when the premium size as defined by the Society is smaller.

We would suggest that the same method be adopted in regard to vegetables as has proved so successful with fruit, that of having cards printed and placed upon the tables, designating where each variety is to be placed, and the hall committee should assist the exhibitor in arranging his exhibit in

Digitized by Google

its proper place. It is an imposition upon any committee of awards to have so much of their time wasted in running about from one place to another to find an article entered for premium, and after the search finding it, perhaps, buried between, or under the shadow, of mammoth squashes and cabbages. It is for the interest of exhibitors to have the premium cards quickly attached to the best lots, that they and the public may know it, and how can it be done so quickly and justly as where all of a kind are side by side, and how can the exhibit be more attractive than when the same kinds are arranged together with taste, and the "Collections" together. When this is the rule and carried out, your Committees on Awards can serve with satisfaction and do justice to all, doing their work so promptly and speedily that they may enjoy the other attractions of the Fair with others. In this connection, we would recommend that cards be printed and hung in the Exhibition Hall, stating number or quantity required of each kind of exhibit to entitle it to compete for premiums, with the amount of premiums offered; for instance, in the Vegetable Department, like this:—

PREMIUMS.

$8.00 for best collection of Vegetables.

3.00 for best 12 Early Turnip Beets.

3.00 for best 3 Hubbard Squashes, and so on, through the list, ending with $30 in gratuities, or whatever the sum, will be awarded by this committee.

Have these cards hung so that they will be seen by the *exhibitor*, the *receiver of entries*, the *hall committee*, the *committee on awards*, and last, but by no means least, the *public*.

Then the excuse, that "they did not know it," will be useless. We think the cost would be amply repaid in the benefits derived; we know it would, in the Vegetable department, and believe it would be in others; for each committee, and the

Digitized by Google

general public would thus obtain information not obtained so quickly elsewhere. We would also suggest that the premium cards be printed, with what it is for, and amount of premium with blanks for name and residence of the person, like this :—

BEST THREE SAVOY CABBAGES.

FIRST PREMIUM, $3.

To .....

Of .....

with gratuity cards similar, with heading left blank for insertion of article, "gratuity" instead of premium, with space for amount. These cards to be packed in a pasteboard box in the order in which the premiums are offered, with the requisite number of blank cards, (the outside of box to designate the committee, with request to return box with the cards not used to Superintendent of Hall), and placed in charge of the Superintendent of Hall for each committee's use; the boxes, with the cards remaining, to be handed to him by the chairman of the committee, at the close of their labors. We think the Society would save expense by so doing, as many cards are now wasted by being thrown into corners, or carried away in the pockets of committees unintentionally as we did.

Congratulating the Society on having such an exhibit, with this unfavorable season of two months drought, which would have been considered an excellent one under the most favorable circumstances, this report is respectfully submitted.

DAVID W. LOW, *Chairman,*

Digitized by Google

COUNTERPANES, CARPETINGS AND RUGS.

The Committee report:—

To Mrs. Martha Jennings, Haverhill, counterpane, 1st premium, $4; Mrs. E. McDuffee, Bradford, do., 2d premium, 2; Miss L. A. Kimball, Georgetown, quilts, gratuity, 1; Miss A. M. Adams, Haverhill, do., do., 1; Mrs. W. M. Nichols, Haverhill, do. do., 1; Mary W. Currier, Haverhill, do. do., 50 cts.; Mrs. J. W. Hooker, Haverhill, do., do., 50 cts.; S. Emily Fitts, Haverhill, do., do., $1; Annie C. Gilman, Haverhill, do., do., 1; Mrs. E. K. Jaques, Haverhill, do., do., 50 cts. Helen M. Perley, Haverhill, do., do., 50 cts.; Mrs. E. B. Adams, Haverhill, do., do., $1; Mrs. Harriet A. Sumner, Peabody, do., do., $1; Myra Emerson, Middleton, do., do., 1; Mrs. G. Whittier, Haverhill, do., do., 1; Mrs. E. Garland, Haverhill, do., do., 1.50; Mrs. Martha Brown, Haverhill, do., do., 50 cts.; Mrs. L. C. Hanscom, Haverhill, do., do., 50 cts.; J. M. Palmer, Haverhill, do., do., 50 cts.; Susan A. Palmer, Haverhill, do., do., 50 cts.; Harriet D. Colby, Haverhill, (Old Ladies' Home), do., do., $1; Miss Caroline Michard, Haverhill, rug, 1st premium, 3; Walter Ordway, Bradford, do., 2d premium, 2; Mrs. Nathan Howe, Georgetown, do., gratuity, 1; L. Michard, Haverhill, do., do., 1; Mrs. J. Holt, Haverhill, do., do., 50 cts.; Mrs. J. N. Jameson, Groveland, do., do., $1; Mrs. A. Hasty, Haverhill, do., do., 50 cts.; Mrs. Eliza Hussey, Georgetown, do., do., 50 cts.; J. S. Gerrish, Newburyport, do., do., 50 cts.; Mrs. D. M. Goodwin, Amesbury, do., do., 50 cts.; Mrs. L. J. Harris, Haverhill, do., do., 50 cts.; Mrs. E. G. Lowe, Haverhill, do., do., 50 cts.; Francis C. Gilman, Haverhill, do., do., $1; Mrs. D. Veasey, Haverhill, do., do., 1; Mrs. H. Crocker, Haverhill, do., do., 50 cents; E. W. Killam, Boxford, do., do., 50 cts.

John L. Shorey, Mrs. Horace C. Ware, M. E. Fuller, Mrs. Aaron Sawyer, Mrs. P. S. Holmes.—*Committee.*

Digitized by Google

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on awards for Articles Manufactured from Leather, would make the following report :—

To D. S. Bartlett, for case of Shoes, gratuity, $3.

To H. P. Fairbanks, case of Shoes, gratuity, $3.

To Daniel Peters, for one set double harness, $7.00.

To Daniel Peters, for one single harness, $3.

To W. W. Sprague, two light harnesses, $10.

To W. W. Sprague, one express harness, $3.

Henry Hobbs, Daniel Goodrich.—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise, regret that the Chairman and the other members of the Committee, were not present to aid by their judgment in awarding the premiums, but they have discharged their duty to the best of their ability, considering the great variety and miscellaneous character of the articles entered for exhibition, ranging from Irish Point Lace Fichus and Ties and Kid Gloves, to a case of Files and an Adirondack Boat. There were not so many contributions in this department as there should have been, but notwithstanding, there was a very fine display of articles, especially of Millinery and Dry Goods, Cloaks and Cloaking, Shawls, Carpeting, etc., contributed by Messrs. C. N. Rhodes, Mitchell & Co., Brooks Brothers, and F. W. Jacobs, all of Haverhill. The Committee was much gratified with the interest taken in the exhibition by these young business men of Haverhill, as shown in the great labor expended and the good taste displayed in the arrangemeut of their several contributions. Their elegant and tastefully arranged tables attracted the attention of crowds of visitors, and received and deserved general and hearty commendations.

The Committee award as follows :—

Digitized by Google

Mitchell & Co., Haverhill, cloaks, &c., gratuity, $6 ; Brooks Bros., Haverhill, goods and blankets, do., 6 ; C. N. Rhodes, Haverhill; bonnets, premium, 4 ; do., do., fancy goods, gratuity, 3 ; W. Jacobs, Haverhill, ladies' cloaks, do., 3 ; J. R. Robinson, Haverhill, boat, do., 3 ; Wm. H. Day, Amesbury, case of files, diploma.

Warren Ordway, George C. Foster.—*Committee.*

FANCY WORK AND WORKS OF ART.

In compliance with your request, and the practice of the society, we have the honor to submit to you the following report in relation to the Fancy Articles and Fine Arts exhibited at your sixty-second annual exhibition, and we are happy to say, that as a whole, the articles contributed to this department were of a higher order of workmanship than those of last year.

In the Fancy Articles, there were a number of entries deserving of gratuities which received none, for this reason: if we gave to one we must to more, as there were a number equally deserving, although of different material and different style of needlework.

Among those deserving of "Honorable Mention," your committee find two landscapes in silk by Adah Peaslee of Haverhill ; an ottoman cover made by M. J. Poor of Haverhill ; chair stripe by Mrs. S. H. Harris, Jr., Methuen, which was very artistic ; also a lambrequin by Florence Appleton of Haverhill. A tidy representing a young chicken just from the shell, and a rooster, who is asking his youthful descendant, "does your mother know you are out?" the expression that of the keenest anxiety ; it was made by Estella C. Dexter of Haverhill. A darned tidy of fine finish by Miss Lizzie West of Haverhill. An affghan knitted by an old lady ninety-four years of age, Mrs. Matilda Barker of West Boxford, would have received a gratuity had it been entered according to rules;

Digitized by Google

as it is, we can only express our regrets, and say the work was very nice, and a great credit to the knitter.

In the "Fine Art" department your committee find many very fine works; among those receiving no gratuity and deserving, was a silk banner, by Mrs. N. H. Butler of Augusta, Ga., done from a stock of upland cotton, beautifully executed and true to nature; a tile by Susie Allen of Haverhill; work by Annie Davis of Haverhill; fruit and corn by Adah Peaslee of Haverhill; tile and dozen butter plates by Lizzie F. Harriman of Haverhill; also a copy in crayon by Mary P. Whittier of Haverhill, which showed a great amount of patience. We find less copies and more original work than last year in this department.

Your Committee would be pleased to suggest, that in future you appoint two committees for these departments; the large number of entries make it impossible for one committee to do justice to all, and if we may be allowed the privilege, we think this gratuity fund should be increased by, say ten dollars, allowing twenty-five dollars for "Fine Arts," and thirty-five for "Fancy Articles," as this is the most extensive part; that is, it allows, in the same number of entries, for a larger variety of work. Your committee have taken into serious consideration these matters, and now most respectfully submit them. The awards are as follows:—

FANCY ARTICLES.

Mrs. A. Currier, Haverhill, sofa pillow, gratuity, 75 cents; Fannie F. Goodridge, do., do., do., 50 cents; Miss Helen Chase, do., table cover, do., $1; Mrs. Chas. Wood, Bradford, do., do., 75 cents; Mrs. Lizzie Littlefield, Haverhill, do., do., 50 cents; Lelia Currier, do., table scarf, do., 75 cents; Mrs. S. H. Harris, Methuen, do., do., 50 cents; Mrs. H. C. Tanner, Haverhill, tidy, do., 50 cents; Mrs. J. L. Emerson, do., do., do., 50 cents; Mrs. F. A. Butler, do., flannel embroidery, do., 75 cents; Mrs. J. C. Whitney, W. Boxford, do., do., 50 cents;

Digitized by Google

Mrs. J. P. Dearborn, Haverhill, darned lace pillow shams, do., 50 cts.; Mrs. W. J. Chase, Methuen, do., jacket, do., 50 cents; Mrs. S. C. Smith, W. Newbury, hand wrought lace, do., 75 cents; Mrs. E. K. Batchelder, Haverhill, apron done in etching, do., $1; Mrs. E. M. Livingstone, do., knit lace on pillow cases, age 70, do., 75; Mrs. Eben Rogers, Rowley, knit lace, age 80, do., 50; Lizzie Harriman, Haverhill, silk quilt hand painted, do., 75; Miss Addie Putnam, Danvers, stand cover, do., 75 cts.; Mrs. R. M. Boody, Haverhill, affghan, do., $1; Mrs. L. W. Noyes, Newbury, do., do., 75 cents; Mrs. Gardner Webster, Haverhill, do., do., 50 cents; Mrs. G. A. Fisher, do., pillow shams, do., 75 cents; Lizzie Wells, do., table cover, do., 50 cents; Mrs. J. M. Littlefield, do., tray cloth, do., 50 cents; Mrs. J. M. Littlefield, do., mantle fringe, do., 50 cents; Maud Sellers, do., seed bag, do., 50 cents; M. J. Howe, Georgetown, husk basket, do., 75 cts.; Lucy J. Kimball, Haverhill, button holes, do., 75; Mrs. E. E. Peaslee, do., flowers in silk, do., 75 cents; Charles Mahoney, do., inlaid box, do., $1; Warren B. Chadwick, N. Andover, bracket, do., 75 cents; Mrs. Nancy West, Haverhill, tidy, do., 50 cents; Mrs. Geo. S. Hicks, Bradford, crotchet and braid, do., 50 cents; Mrs. C. White, Haverhill, feather wreath, do., 50 cents; Mrs. Chas. Atkinson, do., table scarf, do., 50 cents; M. C. Welch, Bradford, worsted wreath, do., 75 cents; Flora L. S. Bartlett, Haverhill, do., do., 50 cents; Mrs. D. W. Goodwin, Amesbury, tidy, do. 50 cents; J. C. Bryant, Haverhill, chair, do., $1.

FINE ARTS.

Bessie Kelly, Haverhill, water color hollyhocks, gratuity, $3.00; Fred G. Young, Groveland, oil flowers, do., 2.00; F. G. Young, do., do., do., 2.00; Mary C. Stratton, Haverhill, do., 1.50; Mary C. Stratton, do., do., 1.50; Mary How, Merrimack, pencil drawing from nature, do., 1.50; Mary P. Whittier, Haverhill, hollyhocks, do., 1.00; Mary P. Whittier, do., sunflowers, do., 1.00; Mrs. Geo. Dresser, do., piano scarf, do.

Digitized by Google

1.00; Mrs. Geo. Dresser, do., sepia sketch, do., 1.00; Lizzie C. Littlefield, do., dog's head, do., 75 cents; Lizzie C. Littlefield, do., chickens, do., 75 cents; Nattie B. Hale, Bradford, oil painting, do., 50 cents; Nattie B. Hale, do., water color, do., 50 cents; Lizzie K. Harriman, Haverhill, mantel mat, do., 75 cents; Mrs. Geo. Ricker, Merrimac, do., 50 cents; Harriet J. McDuffee, Haverhill, dog's head, do., 75 cents; Lizzie Sorrenson, Merrimac, flowers, do., 75 cents; T. S. McAllister, Haverhill, do., 50 cents; Mrs. J. P. Heiney, do., tidy painting, do., 50 cents; Mrs. George Webster, do., painting, black satin, do. 75 cents.

Amount of gratuity fund	$50.00
" used for gratuities	48.75
	$1.25

Mrs. E. A. Bosworth for Mrs. Wm. Cogswell, Mrs. W. L. Bowdoin, Mrs. N. S. Boswell, Helen Chase, Miss Foxx.—*Committee.*

WORK BY CHILDREN UNDER TWELVE YEARS.

The Committee report as follows:—

Daisy B. Littlefield, Haverhill, sham towel, 1st premium, $3; Jessie Dodge, Rowley, braided rug, 2d premium, 2; Nellie M. Pearson, Bradford, patchwork, gratuity, 50 cents; Lucy J. Kimball, Bradford, tray cloth, do., 50 cents; W. B. Chadwick, North Andover, holly cross, do., 50 cents; Florence T. Blunt, Haverhill, cushion, do., 50 cents; Katie M. Blunt, Haverhill, napkins, do., 50 cents; Alice B. Flanders, Haverhill, panel picture, do., 50 cents; A. Shirley Ladd, Groveland, towel rack, do., 50 cents; Blanche Emerson, Haverhill, patchwork, do., 50 cents; Bessie Sprague, Haverhill, cushion, do., 50 cents; Gertie M. Hayes, Haverhill, panel picture, do., 75 cents; G. Howard Smith, Bradford, picture, do., $1.

MRS. T. C. THURLOW, *for Committee.*

Digitized by Google

ROOT CROPS.

There were submitted for inspection by your Committee six entries under this head, viz.:—Onions by J. J. H. Gregory of Marblehead, Potatoes by Messrs. Knight of Newbury and Blodgett of E. Saugus, also Beets and Squashes by Mr. Blodgett and Mangold Wurtzels by Aaron Knowlton of Essex.

Of these entries, but one was made to conform to the new rule, adopted by the society at the last annual meeting, viz.:— "Grain and Root Crop entries to be made on or before Sept. 10." Undoubtedly, in some instances, this was owing to the competitors being unacquainted with this new rule, and shows the importance of a careful perusal of the premium list, &c.

The committee are of the opinion that while this rule is at fault concerning the date of entry of Grain crops, it is more so with Root crops, and would recommend that it be amended, to read Oct. 10th for Root Crops, as it is impossible with some crops for the competitor to decide whether he himself would deem his crop meritorious at this earlier date; this is particularly applicable to all crops in this class, excepting Potatoes, Onions and Squashes.

Recommending that the error of *entry* be this time overlooked, your committee, after a thorough examination of both crop and the several statements submitted, have made the following awards:—

To J. J. H. Gregory, of Marblehead, for crop of Yellow Danvers Onions, the premium of $10.

To J. W. Blodgett, of E. Saugus, for crop of potatoes, premium of $10.

To J. W. Blodgett, for crop of Hubbard Squashes, premium $10.

To Aaron Knowlton, of Essex, for crop of Mangold Wurtzels, premium of 10.00

Appended to this report are the statements of the competitors.

In making the above awards we feel that, taking into con-

Digitized by Google

sideration the amount and quality of the several crops, each well merited the offered premium, although we regretted that there was not more competition. While the attending duties of the committee are somewhat laborious, the different entries having been made at intervals from Sept. 1st to Oct. 25th, yet more competition would have been more interesting, and would have formed a basis for a more extended report than is herewith submitted.

The first visit made was to view the potatoes entered by Mr. Knight, whose reputation as a successful grower of potatoes is widespread, having discovered that his crop, which promised well at one time, had not matured according to his expectations, decided not to render a statement. I was informed by a neighbor of Mr. Knights', that the vines had so covered the ground at one time that it was impossible to distinguish at a short distance which way the rows ran, but later were so affected by the *calamity* which so generally prevailed this season throughout New England, affecting vegetation so seriously as to stamp indelibly on the mind of both producer and consumer the remembrance of the drought of 1882.

On the day following the exhibition at Haverhill, we visited the farm of Mr. Gregory in Middleton, to view his onions, and after witnessing the fine exhibit presented at the Fair in the various classes of vegetables, it had a natural tendency to place our standard of a premium crop above a reasonable level for this season, " which had been marked for its disastrous effects particularly on this crop."

But, our expectations were more than realized. On the summit of *Bear Hill*, overlooking the surrounding country, we were met by Mr. Gregory and his genial foreman, Mr. Sanford, who conducted us to one of his numerous fields of onions, which this season comprised in all about 19 acres, devoted to the growing of this crop alone, where we saw, not the largest onions that were to be found on the farm, but as perfect, symmetrical a crop, as was ever brought to our notice. At this time they had been pulled, and we only regretted that we had

Digitized by Google

not the pleasure of viewing them while standing. As the choicest of his crops are utilized for the production of seed, he had caused them to be sorted, discarding all imperfect as well as small ones, and taking into consideration the uniformity of size, and perfect type, being so symmetrical that each seemed the perfect model of the other, it spoke well for the care manifested to *maintain* and *improve* the purity of the *stock*, not a scullion or unripe onion being observed on the piece.

Mr. Gregory's statement of this crop, rendered the committee, gives the yield on one-half acre, 340 3-5 bushels.

To the many questions propounded by your committee, regarding his success in the cultivation of the various crops, our host at this time seemed most willing to gratify our request.

After attending to the duty in hand we were shown many improvements both finished and in contemplation, in the explanation of which Mr. Gregory seemed most enthusiastic, remarking of some fields that he prized them more highly than others, for the associations connected therewith, having reclaimed them from wild bushy pastures with many surface boulders; pointing out to us in the distance, a fine field where a few years ago was an alder swamp, and still another field of onions on what was recently a cranberry bog.

Completing a hurried inspection of the one hundred and fifty acres comprised in the two farms, noting the general activity and thrift on every side, which bespoke the practical farmer. We were most hospitably entertained, which is a feature predominating among New England farmers.

Taking our leave we wended our way through the farming sections of Danvers and Peabody to inspect the crops entered by J. W. Blodgett of E. Saugus, comprising potatoes, beets and squashes.

The field of squashes contained about one acre of the Hubbard variety, were considered quite pure stock, well ripened and of good average size.

The potatoes were of good size and very smooth, had received

Digitized by Google

thorough cultivation, and were on land particularly adapted for the cultivation of this crop, being adjacent to, and only slightly above the *marsh* level; had not suffered from drought.

The beets shown were looking well, a very good variety, and although in a growing state bid fair to be a good crop.

A statement of this crop was not received from Mr. Blodgett in season to award it a premium, but from appearances might have been well worthy of it.

Mr. Blodgett's farm from its close proximity to the Lynn and Saugus marshes affords him a convenient opportunity for the collection of large quantities of marsh sweepings and sea waste, which enters largely into increasing his stock of manure. In my own experience I have found manure of this nature well adapted for growing most crops, and more particularly roots and running vines which seem to crave a fertilizer of a salt nature.

The call received from Mr. Knowlton to examine his crop of wurtzels was unexpected, owing to the lateness in the season when made, Oct 25th. The full committee being unable to attend on short notice, only the chairman of the committee visited him. Besides finding an exceptionally fine field of roots, with a heavy growth of tops reaching above the waist, which alone would well repay the cost of *harvesting* the roots. I also found a farmer who well understood the importance, as well as economy of heavy manuring. Mr. Knowlton is no novice in the business, having two years ago received the Society's premium for same crop.

It is well known that those farmers who best understand the requisite constituents necessary for furnishing the most plant food, for the least cost, and a knowledge of how best to combine, and in what proportions for different crops and particularly how and when best to apply them, seldom fail to harvest good crops. Yet a very essential part, which will bear emphasis is thorough tillage.

There is much truth in the remark that *manure* is the best farmer, yet there are many necessary accompaniments, for

Digitized by Google

many farmers have felt and expressed the opinion during this season's drought that water figured as a more essential factor, necessary to insure success, than liberal manuring. This leads us to realize the importance of studying the best methods of application, and also the cultivation to best retain the most moisture in our dry soils.

I would define *cultivation* as meaning collectively,—ploughing, pulverizing, manner of seeding, and care of crop.

But first, for a moment give our attention to best time and method of applying manures, especially those most insoluble. Shall we apply all manure on hand, and obtainable in fall or winter, for any and all crops, directly to the land, or allow the same to decompose in heaps on the field to be applied in Spring.

While the pressing cares and labor of harvest time have frequently interfered with fall ploughing, all lands intended for spring planting, yet I would invariably put in practice *deep* fall ploughing on *all land not too sloping*, and harrow in all the manure on hand and to be procured, if needed, believing that by this method the land and manure are more benefitted for the coming crop than if applied in spring.

I have also tried the method which is becoming quite popular, of leaving manure wholly exposed on the surface of fall ploughed land, with most satisfactory results, but prefer harrowing in if applied before the ground closes.

The theory seems reasonable, and practical test proves that that the land having become impregnated with the plant food in the manure, is in much better condition for nourishing and forcing the tender plant, and having become decomposed retains the moisture better than if applied in Spring.

In visiting different sections of the State and county, I have observed one very marked feature of this season's crops, viz.: That there are but few ordinary crops, but mostly varying from one extreme to the other, being either very poor or very good, while the best crops have been produced on naturally moist and low land. Some good crops have been grown on land

Digitized by Google

highly manured which was planted early and received thorough cultivation. Such was the case with the potato, and from my own experience with this crop I would favor early planting, whether the crop was intended for fall or winter use, the average chances for a good crop being more favorable.

Another advantage in favor of early planting is the ease of controlling the potato bug, which was at first thought to be so disastrous to the production of this most important crop.

I incline to think that the great annoyance of this pest, the potato bug, has taught many of us a valuable lesson, viz., the importance of heavy fertilization and good cultivation, in order to force the plant as far as possible beyond the ravages of the bugs. I am of the opinion that large crops have been produced, and that there is no crop to-day in which so many farmers manifest an interest and zeal in improving as in the potato. A study of the fine exhibit at our recent fair is evidence of the growing popularity of the potato as a profitable field crop.

CULTIVATION OR STIRRING OF THE SOIL TO PROMOTE GROWTH.

However thoroughly we plough and with improved implements pulverize the soil at seeding time, *and this is most important*, a *frequent* stirring of the soil among all vegetable plants, whether the soil is moist or dry, is necessary to reap the full benefits of the elements in the atmosphere. When the ground is wet cultivate thoroughly to retain the moisture, and when it is dry stir the soil often, that the pores may be open to absorb the dew and moisture in the atmosphere.

It would appear very unpopular to advocate weeds as being a benefit under any circumstances whatever, yet I have known of instances where crops have received one hoeing more than *seemed* necessary except to *destroy* the weeds, while adjoining portions where the weeds failed to appear had been denied this last hoeing, the surface would become baked and suffer in a dry season much more than that which received the extra labor.

Digitized by Google

A friend made the remark to me a short time since, that he had learned this season more than ever before the importance of hoeing at the right time, as he expressed it, or when the plants were large enough to work among, and pointed out to me where he quit hoeing a crop to attend to other work and did not get an opportunity to finish the piece until one week later; the difference in the quality and quantity of the crop could be detected at a glance, the increase being much in favor of the early hoeing.

Let us bear in mind the importance of fertilizing highly, thorough ploughing, careful seeding, and frequent hoeing, and having done our duty by the crop, trust to nature to do the rest. Respectfully submitted by

A. T. NEWHALL, *for the Committee.*

STATEMENT OF J. J. H. GREGORY.

To the Committee on Root Crops:—

GENTLEMEN:—The half acre of Early Round Danvers Onions entered by me have been harvested, and all measured, and a number of bushels weighed to determine the average weight of the lot. The yield to the half acre was 340 3-5 bushels of 52 lbs. each. These onions were grown on one of my Middleton farms, and was the third continuous crop on the same land. The manure used for the first year was about half in value each of stable manure and guano; the second or last year I have the impression that the part of the bed had the same proportion of stable manure with unleached wood ashes harrowed in and guano slid in after the onions were up, and again just before they bottomed. The value of the manure each year was $65.00. I feel a little uncertain about this portion of the bed, for the entire bed of three and a third acres was variously treated in its different parts by way of experiment. This year the piece on which the onions offered for premium were raised, with the exception of a small portion of it, was manured with 22 1-2 bushels of unleached Canada ashes, which were harrowed in after the ploughing, and $30.00 worth

of Ames ground bone and flesh, which was all raked in just before the seed was sown.

The small portion referred to was part of an acre to which, by a mistake of the man in charge, a ton of Peruvian guano, the guaranteed, was applied. The results on the guano-manured portion were no better than on that which received the ashes and Ames manure. This can be satisfactorily explained by the fact that the three great elements of plant food must be supplied in the proportion needed by the plant; consequently any excess of these will not increase the crop. To apply this truth to the case in hand, if in addition to the large quantity of ammonia contained in the guano, I had made a proportionate increase in the phosphoric acid and potash fed to the plant, without doubt the effect on the portion of the crop so treated would have been very evident in the increase.

Allow me here to remark that on one portion of the large bed on which Mangolds were raised last season and onions for the first time this, the crop was just about as good as on the average of the bed, which I account for by the same principle as the above, viz.: knowing that Mangolds are great potash feeders, I gave this part an extra feed of the ashes. If our farmers will give the land on which either beets or cabbages were raised the year previously an extra quantity of unleached wood ashes or potash in any other form, over and above the usual manure, when planting to onions, instead of the failure usual when following these crops with onions, they will be likely to have success.

The land had a shallow ploughing, about four inches deep, when it was first harrowed and then raked with a new variety of rake run by horse power. This rake consisted of four cylinders of wood, on which were fastened circular discs of steel, much like those in the Randall harrow; these discs cut between each other making the soil or ground free from stones the size of one's fist, as fine as when hand raked. As the space raked was about six feet in width, there was a great saving of time.

Digitized by Google

The entire cost and profits of the crop on the half acre was as follows :—

Interest on land,	$3.00
Ploughing and harrowing,	2.00
Fetilizers,	45.00
Applying same,	1.00
Raking,	1.25
Planting,	·50
Seed,	12.00
Three weedings,	12.00
Three slidings,	1.75
Pulling and turning,	4.00
Harvesting,	12.00
Topping,	10.20
Marketing,	23.80
	$128.50
Value of crop large onions, 320 bushels, at 80 cts.,	$256.00
20 bushels "picklers" at 50 cts.,	10.00
	$266.00
Deduct cost,	128.50
Profits,	$137.50

The price of onions is unusually low this season or the profits would have made a better showing.

STATEMENT OF J. W. BLODGETT.

To the Committee on Root Crops :—

GENTLEMEN :—The following is the account of my potato crop entered for premium.

The land consists of a black loam with sandy subsoil. It had been in grass several years previous to 1881 and had received no manure. In June of that year the grass was cut; ploughed the land six to eight inches deep in July, manured

Digitized by Google

with stable manure, eight cords to the acre, and raised a crop of cabbages. Ploughed the land again in the fall. About the 20th of April, 1882, it was again ploughed 6 to 8 inches deep, harrowed, furrowed 39 inches apart, 6 inches deep, manured with stable manure spread in drills about 6 to 7 cords to the acre. Planted with Early Rose and Clark's No. 1 potatoes, about ten bushels to the acre, cut in pieces, two to three eyes each, dropped in furrows twelve inches apart, covered with No. 10 Oliver Chilled Plow. When the potatoes were sprouted, harrowed the piece down level with bush harrow. They were cultivated twice, hoed by hand-hoe once and horse-hoe once. Bugs were destroyed by applying Paris green and plaster dust mixed, one pound of Paris green to one hundred and fifty pounds of plaster dust. Gathered last of October two hundred bushels No. 1 Potatoes, twenty bushels No. 2.

STATEMENT.	DR.
Ploughing and Harrowing,	$3.75
Use of land,	7.50
Cost of Manure,	27.00
Getting out Manure and Planting,	8.00
7½ bushels of Potatoes,	9.00
Bush Harrowing,	1.50
Cultivating and Hoeing,	8.00
Labor, Plaster and Green,	3.00
Harvesting and Storing,	13.00
	$80.75
	CR.
By 200 bushels No. 1 Potatoes at 82 cts.,	164.00
By 20 bushels No. 2 Potatoes at 36 cts.,	7.20
	$171.20

STATEMENT OF J. W. BLODGETT.

The following is the account of my Squash crop entered for premium :—

Digitized by Google

The land consists of a black loam. The season of 1880 this land was manured with stable manure at the rate of about ten cords to the acre; ploughed six to eight inches deep, and planted to Dewing's turnip beet. The year 1881 it received about the same treatment, and the same crop as the year previous. First of May, 1882, it was ploughed six to eight inches deep, harrowed, furrowed eight feet apart, manured with stable manure, about four or five cords to the acre in hills 8 feet apart. Planted to Hubbard squash June 5th, six seeds in a hill; when the plants were of a suitable size thinned them to four plants in a hill. They were cultivated four times and hoed twice. The bugs were destroyed by applying plaster dust in the morning when there was dew upon the vines. Harvested Sept. 30, 5 9-10 tons of No. 1 Squashes, and eleven hundred pounds No. 2 Squashes.

STATEMENT.	DR.
To use of land,	11.00
To cost of manure,	30.00
To ploughing and harrowing,	5.50
To planting, manuring, &c.,	6.00
To Seed,	2.50
To cultivating and hoeing,	9.00
To plaster and labor,	5.50
To Harvesting and storing,	9.00
	$78.50
	CR.
By 5 9-10 tons No. 1 Squashes at $40 a ton,	$236.00
By 1100 pounds No. 2 " at $20 a ton,	11.00
	$247.00

EAST SAUGUS, Oct. 30, 1882.

I measured for J. W. Blodgett a piece of land containing 130½ rods, on which grew 220 bushels potatoes.

W. SAUNDERS.

Digitized by Google

East Saugus, Oct. 30, 1882.

This certifies that J. W. Blodgett raised 5 9-10 tons Hubbard Squashes and 1100 lbs. second quality on a piece of land containing 1 acre and 17 rods. W. Saunders.

STATEMENT OF AARON KNOWLTON.

Statement concerning a crop of Mangold Wurtzels raised by Mr. Aaron Knowlton in the town of Essex, Mass., 1882. Crop of 1880 was grass. 1881 crop was Fodder Corn, manure was barn and stable mixed, about thirty loads to an acre. Manure 1882 was thirty-five loads of barn manure alone, spread on in November, and ploughed in nine inches deep. Ploughed again in May twice, same depth, then raked and smoothed and four pounds of seed sown the 12th day of May. Carter's Mammoth seed was used. Cultivated three times, first and second times with a patent wheel cultivator, third time with a hoe, cutting very deep. The soil was a dark, clay loam. The plants were thinned to one foot apart. Finished harvesting the third day of November, 1882. The tops were twisted off as they stood in the field, afterwards the Mangolds were pulled and thrown in heaps, then hauled to the cellar. One load was weighed and the other loads were loaded as near as possible to same size. There were thirty-nine loads. The load weighed was 2005 lbs., making 39 tons and 195 lbs. in all. The cost of the crop was as follows:—

Ploughing three times,	$15.00
Cost of manure at the rate of 35 loads to the acre, for 90 rods,	50.00
Four pounds of seed and sowing,	4.00
Cultivating, weeding and thinning,	18.00
Harvesting,	12.00
	$99.00
Credit by 39 tons 195 lbs. of Mangolds, at $10 a ton,	$390.97
Profit of crop,	$291.97

Digitized by Google

ESSEX, OCT. 30th, 1882.

GENTLEMEN:—This is to certify that I have this day seen Mr. Aaron Knowlton measure a piece of land covered with Mangold Wurtzels, and it measured 247 feet long by 100 feet wide making just 90 square rods.

D. B. BURNHAM.

GRAIN CROPS.

The Committee on Grain Crops have attended to their duty, and make the following report :—

The number of entries of grain crops are six,—four of Rye, one of Barley, one of wheat, and one grass crop.

Only two of the parties that entered a Rye crop made a statement of their crop.

We recommend the premium of $10 to S. S. Pratt, Danvers Asylum.

The premium of $10 on Barley to W. W. Perkins, Newbury.

The premium on Wheat of $10 to Nathaniel Little, Jr., Newbury.

For the largest quantity and best quality of English Hay we recommend the premium of ten dollars to W. W. Perkins, Newbury. Respectfully submitted,

James P. King, Horace C. Ware, Aaron Sawyer.—*Committee.*

STATEMENT OF S. S. PRATT FOR DANVERS HOSPITAL.

The crop of Rye entered for premium by S. S. Pratt for the Danvers Insane Hospital, grew on one acre of land, of a dark heavy loam, with gravelly clay subsoil. The crop of 1880 was sweet corn, manured in the hill with five cords of barnyard manure. In 1881 the land was manured with eight cords of barnyard manure planted with potatoes, yielding a good crop, and was ploughed again the last of August, and sowed to Winter Rye without any more manure.

Digitized by Google

It was fed in the Fall of 1881, as it was of very rank growth, mowed with a scythe July 17, 1882, bound and put in the barn July 21.

Amount of Grain, 42 50-56 bu. at 90 cts. per bu.,		$38.60
" " Straw, 8665 pounds at 90 cts. a hund.,		77.99
Total credit,		$116.59
Ploughing,	$3.50	
Seed and Sowing,	2.25	
Harvesting and Teaming,	7.50	
Harrowing and Rolling,	3.50	
Threshing and Winnowing,	10.75	
Interest,	6.00	
		33.50
Profit of crop,		$83.09

Attention is called to the fact that from the time (July 21) it was put in the barn, to the time it was threshed, a space of thirty-five days, it shrunk 445 pounds, which is deducted in making up the estimate of profit.

STATEMENT OF NATHANIEL LITTLE, JR.

The crop of wheat which I offer for premium, was raised on one acre of ground, and weighed 2291 lbs.; a crop of onions was raised on the land in 1880, and in 1881 one half was to onions and the other half to potatoes, with the ordinary cultivation of about 20 loads of manure to the acre. No manure used in 1882.

It is due in justice to the crop, to say, that by estimation there was one bushel, or more, contributed to various parties for æsthetical purposes; and owing to a delay in threshing, a like quantity to the rats and mice, for more practical uses.

This will certify that I weighed the above wheat, and that the above figures, 2291 lbs., are correct.

N. W. Moody.

Digitized by Google

This will certify that I measured the above land, and that the quantity, one acre, is correct.

SIDNEY F. NEWMAN.

STATEMENT OF WILLIAM W. PERKINS.

To the Committee on Grain Crops :—

The crop of Barley I offer for premium was raised on 250 rods of land, measured by John C. Rolfe. The barley was measured by J. H. Tumly, 67 bushels; weighed by James H. Ilsley, and weighed 50 pounds to the bushel. Two years, 1880 and 1881, the land had been planted with corn and sugar beets, with about seven cords of stable manure to the acre. For many years previous to 1880 the ground had been used as an onion bed. The soil is a clay loam. I have not kept a record of the expense of cultivating the crop, and do not know the price of barley. Straw is worth $12 per ton; I should judge there was about one and a half tons.

STATEMENT OF WM. W. PERKINS.

The crop of grass entered by me for premium was raised on one acre of land, measured by James H. Ilsley; weighed by Frank Perkins, at the time it was put into the barn, and weighed 7240 pounds.

The ground for many years previous to 1879, at which time it was laid down, was an onion bed; no top dressing had been applied since it was in grass, until last fall, when I spread one barrel of ground bone, about 250 pounds, without composting. The land is gravelly with clay loam. I have tried the bone dust one year, and was favorably impressed with it; shall use it again this fall.

FARMS.

There have been two entries of farms for the Society's Premiums, and a visit was made in June by a part of the Com-

Digitized by Google

mittee. When the drought came on so severely as to stop the growth of nearly all crops, the Committee deemed it unadvisable to continue the visiting further, as no correct judgment could be passed upon the real condition of the farms entered; therefore no awards have been made. But it is hoped that those who have entered their farms this year will, with others, enter them another year under more favorable circumstances.

BENJAMIN P. WARE, *for the Committee.*

SILOS AND ENSILAGE.

In presenting this subject to the farmers of Essex county, we do so fully realizing the difficulty and the delicacy of the task; the difficulty of obtaining reliable data in regard to the cost of producing and storing ensilage, is seen from the fact that very much of the information gained is entirely dependent on the judgment of the producer; and also from the fact that the deductions of science, as shown by the most thorough and rigid analysis, in regard to the nutritive qualities of ensilage, differ so widely from the results gained from the practical tests that have come under our own observation. And the delicacy of the task is at once perceived, when you remember the widely differing opinions as to the merits or the demerits of the whole question involved, and that, too, by men for whose opinions we have the highest regard. But notwithstanding the widely differing opinions that exist among our farmers, and the fact that these opinions are sometimes expressed in language more forcible than elegant, yet we are charitable enough to believe that they express the honest convictions of their authors; we believe that the intelligent farmers of Essex County are honestly inquiring after the truth in this matter of preserving green fodder for winter use. Facts are what we want, not abstract theories that have never been put to the test of practical application, for the laboratory of the field gives a different result from the laboratory of the school,

Digitized by Google

simply because the conditions are different; consequently the combinations are different, hence the widely differing results. Without doubt one reason why some of our farmers have either opposed this new method of preserving green fodder or have looked coldly on while their more zealous neighbors have been experimenting and succeeding, is the notorious fact that no class of our fellow citizens have been so imposed upon as farmers. If you doubt the statement call to mind the fortunes made (in your mind) by purchasing the exclusive right to sell Patent Churns, Patent Hay Forks, Patent Stump Pullers, Canker Worm Exterminators, Potato Bug Catchers, and last but not least, Patent Spring Beds, upon which every farmer may sleep and dream of fortunes to be made by investing largely in corner lots in cities yet to be, in the great and growing West. Who can blame an honest victim of these frauds, for standing so erect as to lean just a little backwards.

Hence in pursuing our investigations we have endeavored to obtain the facts in regard to this very important subject, leaving the scientific aspect of the subject to those who have the time and taste for that very important department of the investigation; and as far as we have been able to obtain them, and present them to the consideration of the farmers of Essex Co., the results of the experiments made by practical farmers of our county. We have therefore entered into a very extensive correspondence with the farmers who have built silos, and stored the ensilage, and have fed it to their stock from one to three successive years.

We have also visited several of these silos when opened, and some of them after they had been opened for three months. In most cases our visits and our correspondence have met with the most cordial reception. In one or two instances the replies to our questions would lead one to suppose that their authors felt that they were in the possession of some great secret which they did not wish to communicate to the outside world. Our method of procedure was to send to every farm-

Digitized by Google

er in the county who had built a silo, a postal card bearing the following questions :—

1. Capacity of your silo ?
2. When built ?
3. Amount of ensilage stored ?
4. Kind of seed used ?
5. Which do you like best ?
6. When do you begin to feed it ?
7. Do you make milk or butter ?
8. Does your stock gain or lose ?
9. Entire cost of producing it ?
10. Do you consider it a profitable crop ?

In addition to the above, we have corresponded with more than fifty different farmers outside of our county, that have built from one to fourteen silos each, having stored the ensilage and fed it to all kinds of farm stock, and in no instance have we received a report of a partial failure.

And without going into the details of the replies received from the several owners of silos, we will give the general results deduced from them as they appear to your committee.

1st. That this method of preserving green fodder for winter use is a success, when the necessary conditions are secured.

2d. That ensilage is a nutritrious and profitable feed for all kinds of farm stock, but especially adapted to milch cows.

3d. That the flavor of the milk and butter is not much different from that made with summer green feed, but is more uniform.

4th. That there is invariably an increase of flesh and flow of milk, when the same amount of grain is fed with it as with English hay.

5th. That the quality of beef is very much improved by its use in connection with other nutritious food.

6th. That in order to reach the best results, ensilage should be fed with some other nutritious fodder, even for cows.

7th. That all kinds of grass or grains may be stored with

Digitized by Google

safety, but that corn and clover mixed with apples makes the best ensilage.

8th. That the finer it is cut, and the more heavily it is weighted down, the better, as the air is thus expelled from the silo; which alone secures its preservation.

9th. That there is not much difference between the Southern White, Blunt's Prolific, and Bailey's Mammoth Corn, for seed; all are good.

10th. That the cost of producing aud storing ensilage is from two to four dollars per ton.

11th. That the best material for constructing a silo, in Essex county, is stone and cement; and the best material for weighting the ensilage is stone of from twenty-five to fifty pounds weight.

12th. That it will not pay to plough up land that is now yielding two tons of hay to the acre to plant ensilage corn; but land that needs ploughing up and working over, or as a second crop following some early crop. There is no better crop for fodder than one that you can ensilage for winter use.

In thus presenting the results of our investigations, we have not taken the extreme statements of our correspondents of either side, but have endeavored to present the substantial facts in the investigations, realizing that the whole subject is yet in its infancy with us, although very thoroughly understood and applied by our neighbors across the sea. But we have no doubt that during the next ten years such improvements will be made in producing, storing, and feeding ensilage, that it will take its place among the standard farm crops of the country, and from the fact that we have built twenty-three silos in less than four years, we infer that Essex county will not lag behind the other sections of the country in this branch of agricultural science.

O. S. Butler, *for the Committee.*

Digitized by Google

REPORT ON APPLES.

BY T. C. THURLOW.

The exhibition of apples this year was unusually good, especially for such an unfavorable season—and we would heartily congratulate the fruit growers of this county upon the interest taken in this, the most important of all fruits, and for the skill and care required to produce and exhibit so many, and so fine specimens. Judging from the quality of apples seen at other fairs, we expected a very meagre show at this, but were happily disappointed at finding it very nearly up to the average of other years. For varieties we find nothing better than our good old native sorts—of which the Baldwin stands at the head—and until we find something better, shall recommend this as "the apple" for profit in this section of country, especially upon land of moderate fertility. Upon rich loam or clay soils the Roxbury Russet often does well, but even on such land the Baldwin would pay the best. The Hubbardston Nonsuch (another native,) on warm land, with good cultivation, generally does well, and is an excellent paying fruit. The Gravenstein (a foreign fruit) adapts itself remarkably well to our location, and we believe on good land with *high cultivation*, can be made as profitable as any other variety; its excellent quality and fine appearance will always find it a ready market, and where best known is getting more popular every year. There are other excellent varieties of apples, both foreign and native, some of which under certain circumstances may be more profitable than any of these; also a large number of kinds which may be desirable in an amateur collection, or for dessert or table use—but we would earnestly urge the farmers of Essex County to the growing of apples as a *specialty*, and in doing so to plant only a very few of the best known market varieties. We are thus emphatic in our appeals, knowing that farmers as well as those who own small gardens, are too apt to be over persuaded to buy trees with high sounding names, or from seeing overdrawn pictures in plate-books.

Digitized by Google

Perhaps the hardest and most perplexing thing we agriculturists and horticulturists have to contend with, is the multitude of insects, both new and old, which sometimes almost baffle our efforts and exhaust our patience; and it does appear as though the apple had more than its full share of these insect enemies. We have just learned to cope successfully with the borer, the caterpillar and the canker worm—have learned the habits and best known remedies for the curculio and apple worm or codling moth, when a new candidate appears in the shape of a small worm or magot, which perforates the entire body of the apple, often rendering the fruit of whole orchards nearly worthless. This worm does not appear to have been described by Dr. Harris or other writers of a few years ago, and although the worm has been noticed for many years in a few varieties of apples, especially early ones, it has not till very recently been known to damage whole orchards. There are locations in New Hampshire where certain varieties have been entirely ruined by them, and we hear that it is increasing in this vicinity. We are glad that our Essex Society has just offered a liberal premium for some way or means of preventing the ravages of this insect, and it becomes us all to watch and study its habits, not doubting but we shall ere long discover an effectual remedy.

We would call attention to the fact that the soil in many of the orchards of this county has become exhausted by continual cropping without any adequate return. A very shallow ploughing, with a good dressing of manure, potash or lime, would in nearly all cases be beneficial, and we have seen the best of results from the pasturing of orchards with sheep, hogs or poultry. We have not time to extend these remarks, but would again congratulate the exhibitors of fruit at the late fair, especially the *young* men, of whom the contributors were very largely made up—many whose names we have never before seen upon the exhibition tables. This is a step in the right direction and we beg of you not to feel discouraged, or think you were overlooked if you do not all see your names among

Digitized by Google

those who took premiums or gratuities. It is impossible for any committee to do full justice in such an exhibition as this, but we have this satisfaction, that we *tried* to do the best we could under the circumstances.

TREADWELL FARM.

Report of the Committee on Treadwell Farm.

By referring to the report of last year it will be seen that the farm was leased to Mr. Philbrook for a term of years, but by his non-compliance with the condition of the lease by failure to pay the rent, the lease was cancelled by the committee and re-leased to T. W. Pierce, Esq., of Topsfield, for a term of seven years, at an annual rent of $300. The farm buildings have been put in good condition, and will require no further repairs of importance for several years.

A series of experiments with the culture of potatoes, were started under the direction of the committee, in the spring, but owing to the severe drought that has so seriously interfered with the success of farming in most parts of the county, the experiments have resulted in failure as the products were of no account, and the crops of the farm have been very small from the same cause.

STATEMENT OF WM. B. CARLTON.

TOPSFIELD, Dec. 5th, 1882.

From the data at my command I infer there has been applied to the farm about 19 cords of manure, largely from a slaughter house, and 12,600 lbs. of Hill and Drill and Stockbridge fertilizers.

The season has been extremely unfavorable for this farm, so that cultivated crops have been more or less a failure.

More than an acre of beans planted did not realize more than the seed.

Digitized by Google

The crops produced have been:

Asparagus,	150 bunches.
Apples,	35 bush.
Cranberries,	4 "
Potatoes,	78 "
Squash,	1145 lbs.
Corn,	261 bush.
" stover,	35,680 lbs.
Barley fodder, (estimated)	500 "
English hay, "	16 tons.
Meadow hay, (weighed)	35,680 lbs.
Turnips, (very poor)	350 bush.
Rye,	21¾ "
" straw,	1 ton.

The pasture has carried from 12 to 14 head of cattle and horses.

There has been considerable cleaning up of rubbish and bushes along the walls and other places, so that the farm generally presents a respectable appearance. The lease provides that proper measures shall be directed toward eradicating wood-wax and bushes from the pastures, which have made considerable growth there.

For the Committee, BENJAMIN P. WARE.

Digitized by Google

ESSAY.

APPLES.

ESSAY BY JOSEPH HOW OF METHUEN.

There having been no application for the premium for new variety of winter apples within the past year, there has been no occasion for a meeting of the committee. Your chairman, however, ventures to offer a few remarks and suggestions from his own experience and observation. The liberal premium of $100 that has been offered for many years by the Essex Agricultural Society for a new variety of winter apples equal to the Baldwin or Roxbury Russet has not had the desired effect, for no new variety has yet been produced which in the opinion of the committee is equal to those varieties. Still we think good is resulting from the offer, as it is creating much interest and discussion not only in our own county but elsewhere. We have repeatedly received letters from persons in and out of our state saying they had seen our reports and were deeply interested in the subject, and feel the importance of a new variety of late keeping winter apples. A person from the state of Maine wrote to me for scions for experiment in comparison with other varieties, saying that he was scouring the country for a variety of late keeping winter apples, and that he was intending to sow a nursery in the hope of getting a new variety from seedlings. He intends also to experiment on cross grafting. That man is on the right track and good will most assuredly result from his efforts. We think there never was a time when there was so much encouragement to produce apples as the present, particularly winter apples for foreign markets. The hard rocky soil of Essex County is particularly adapted to produce hard, long keeping apples for that purpose. The Baldwins are the best and most popular winter apples in New

Digitized by Google

England; they are well adapted to different soils, and are more largely produced than all other winter apples put together. No new variety can be expected to excel them. It has been said by one who has traveled largely in Europe as well as in our own country, that the Baldwin apples were the best apples in the world, which is a strong expression, but we think it may be strictly true. The Roxbury Russets are of superior quality, and it is an old variety said to have originated in Roxbury. It will keep better than the Baldwin and retains its life and vitality better but is not a good bearer. We have during the past year ourselves tried to get what information we could in regard to their productive qualities in different localities, when compared with the Baldwin. As they originated near the sea shore they seem better adapted to that locality than to the interior. One person living near the sea shore thinks they will produce nearly as much as the Baldwin, as they would usually bear every year which the Baldwin does not. Another person not far distant thinks he could produce two barrels of Baldwins to one of Russets; another further in the interior thinks he could produce three barrels of Baldwins to one of Russets; another five, and another had cut his trees down they were so unproductive

From our own experience and observation we think the above is a fair representation of the general experience. What is now wanted is a variety that will keep a few weeks longer than the Baldwin, and be its equal in quality and productiveness. Such apples could be carried to more distant markets and be in greatly increased demand. There are various kinds of late keeping apples produced such as the Russet, the Runnels, the Orange Pippin, the McCarty, Red Russet, and many others, but none of them seem to meet the wants of the people like the Baldwin in their season.

The Red Russet appears to have originated from a cross of the Baldwin and Roxbury Russet, as described in our report published in the Essex transactions for 1880. It is of good parentage, and we cannot see why their good progeny should

Digitized by Google

not be equally good. Much difference of opinion exists however in regard to its value. Now we say test them. Cut the scions from the best trees, those that produce the best fruit for keeping and quality and are the best bearers. Set your trees on high, deep, loamy land. If rocks are plenty they will do no harm provided there is sufficient loam for the wants of the trees. If then they will not pay for cultivation try some other variety, as no apples should be propagated to much extent that will not pay for cultivation. This important subject offers an unbounded field for exploration.

Two years ago we made a report giving such information as we had on the subject of cross grafting. Since that time we have sought and received further information upon that subject, and believing it may be of much importance to the cultivator, have thought proper to allude to it again in this essay. In the Boston Congregationalist an article was lately published, asking, what makes so much difference in the Baldwin apples? The reply was that the fruit was sometimes influenced by the stock into which it was grafted. The soil on which they grow has also much to do with the quality of apples. Another article followed in the same paper over the signature of Essex, asking if the opinion that the fruit of the scion is influenced by the stock is correct? May not the Baldwin be grafted into some late keeping winter stock and improve its keeping qualities? The reply was that no reason is seen why if the grafts are influenced by the stock, as we know they are more or less, the plan suggested by Essex might not work well.

The editor of the Congregationalist says he knows the stock in some cases has an influence on the fruit of the scion. We fully believe it, as we have repeatedly seen it in our own orchard, and we have abundant evidence from others. We think large trees when grafted have more influence than small ones. Two years ago in our report we suggested a plan for cross grafting that we now think will be ineffectual. The plan was to cut the grafts the second year from those of the first year, and so on from year to year. We now think this will not have the

Digitized by Google

desired effect, for the reason that the stock the first year will have but little effect on the scion. The Roxbury Russet is a late keeping variety, and if the Baldwin should be grafted into that stock we might see such results. Essex also asks at the same time what kind of land is best adapted to growing late keeping winter fruit, and is high cultivation desirable? Reply: Fruit grown on high, rocky land will keep longer than that grown on richer lower land, and also that fruit grown on trees standing in the grass will keep much longer than that raised on trees that have received high cultivation.

One of the Trustees of our Society said to us at the trustees' meeting in June, 1881, that he had just been picking over and selling his Russets, and those that grew on trees scattered over the farm have rotted less and are now harder and better than those that grew on his best orchard. Substantially the same remark has been repeatedly made by our farmers when asked where their best keeping apples grow. On our pastures has been the reply in nearly all cases. These pasture apples spoken of are usually apples that grow on trees that have come up naturally in the pastures and have been grafted with Baldwin scions. One of those persons who said that the best keeping apples grew in pastures, said that he had a Baldwin tree that has the wash from the sink spout and the apples grow large, but are of poor quality for keeping.

In the early part of the present century there had sprung up on my father's premises a lot of young apple trees, that he in due time grafted mostly with R. I. greenings, then a new variety from Rhode Island, a few russets and green sweets, which were the principal winter apples then produced in our vicinity, (baldwins were not then known). The trees are on descending ground from the barn and its surroundings, so that the land has been kept rich from the wash passing over it, and some of it excessively so. The grafting of those trees by my father, their thrifty appearance as seen from the house that was near, and the great fine apples produced, caused a sensation in my boyhood that I cannot well forget. I have been

Digitized by Google

familiar with the orchard from that day to the present, and nearly every year have assisted in gathering the fruit. Some of the trees died, as he supposed from the excessive richness of the ground; others have partially died, and new branches have grown out that are now in bearing; others have grown broad and tall like forest trees. As I look back upon this orchard after a long lapse of time, I have come to the conclusion that as a rule the apples have been larger, but prone to decay. It has been quite common for them to rot on the trees, so that they would go for cider or waste on the ground, and those that were carried into the cellar must soon be disposed of; those on the richest ground have rotted the most. About forty years ago we were desirous of increasing our orchards. Knowing that apple trees growing by an old stone wall where the land is uncultivated, grow much better than those in the open field, we concluded to try the experiment in an old hill pasture. We purchased from old nurseries trees that had not been grafted, but were of sufficient size to be grafted six or eight feet from the ground, cut off the tops and brought home only the body of the trees and the roots. They were set out near the stone walls, stones piled around them to protect them from the cattle, and grafted mostly with baldwin scions. Most of the trees and scions lived and did well. We set out more than a hundred trees; they have had no cultivation or manure and but little pruning. When the caterpillars appeared they were destroyed, and fortunately the canker-worm did not find them until the last two or three years. They are now nearly all living and in good bearing state. The apples they have produced have been of better keeping quality than those produced in our fields, and we think as a rule, they have been quite as productive, although the apples have not been quite as large. Two other similar cases with similar results have come to our knowledge, corroborating the opinion that rocky, uncultivated soil, yields better apples for keeping and flavor, but usually not so large as richer land; such apples are of more value for foreign markets.

Digitized by Google

On the northerly side of the Merrimack and not far from its borders there is an old hill pasture, on which sprang up many years ago bushes and young wood, with a large number of thrifty young apple trees. The apple trees were grafted with various kinds of fruit, baldwins, however, predominating. The young wood was partially cut away from time to time in order that the apple trees might have the ascendency. Many of these trees are on a steep side hill with the road at its foot. When passing in on an Autumnal day, with the sun shining on the bright red apples, it is not unlike an oasis in the desert, a very pleasing sight.

The owner of this orchard informs me that the apples are usually of good size and quality, and that it has produced in one year more than four thousand bushels. It is still kept as a pasture and has no cultivation whatever. The soil is a rich deep loam, with some stones. There has been no trouble as yet from canker-worms. We have alluded to the color of these apples which is an important consideration. The rays of the sun cause the color and also improve the quality of the apples. A red apple is better than one that is not red of the same variety, hence it is desirable so far as possible, that trees should be broad but not high, that they may receive more of the rays of the sun and also be easier to gather. An orchard in our town on what is termed gravelly land, produced five years ago a good crop of apples without cultivation or manure. The apples were picked and a portion of them sold to go to Europe. They were marked with the initials of the owner's name, and sent with others. Soon after a message came back for more of the apples marked with this man's initials, but none of the other kind. The next year another message came saying, those apples were unusually good for keeping and for quality, and more of the same kind was wanted; uufortunately for the owner the orchard did not bear that year. In the same orchard there were trees on a low rich spot that produced larger apples which attracted the attention of the neighbors,

Digitized by Google

who purchased them for their own family use. Soon there was complaint that the apples did not keep well.

There is much difference in what is called gravelly land. There is a kind of soil composed mostly of sand and pebble stones of the size of coarse sand upwards, that is unproductive for almost any crop. The gravelly land above mentioned is of a different nature. It is a rich loam with a large mixture of apparently broken stones, as one digs for a cellar or well he soon comes to larger stones, and eventually in most cases to a solid ledge. The roots of the trees will find their way where the pick and spade will not penetrate. and sometimes to a great depth. Trees have been set where it was with difficulty that sufficient soil to cover the roots could be obtained. The trees would live there and bear the best of fruit. In regard to unproductive land, we have a case to the point. A gentleman from the county of Middlesex informs us, that many years ago he planted an orchard and grafted it with scions from the original baldwin tree, and received the society's first premium on young orchards. On enquiry about the soil and cultivation, he said the land was a sandy gravel, was freely manured and kept cultivated, and further represented that the trees soon began to decay and eventually died. It thus appears that such land is not profitable for an orchard, although with high cultivation a premium may have been received.

Last winter and spring we repeatedly called at the stores and shops where apples were sold to ascertain how the apples compared that were purchased of different farmers and from different localities. Two things were observable. First, nearly all the apples that came to our notice were Baldwins, and few other varieties except some Russets in the spring ; showing that there were but few other apples produced. Second, there was a great difference in those Baldwins. We should hardly have known some of them as Baldwins had we not been told. We think the cause of this great difference must be the influence of the stock on the fruit of the scion or from the soil on which they grow; both may have had their influence. The soil has a

Digitized by Google

similar effect on many other crops. A medium crop of hay that grows on high, warm land is sweeter and better than that which grows on low land, and will impart an odor that low ground hay does not possess. We heard a man who fattened cattle in winter say many years ago that they fattened much better upon high land than upon low land hay. The same principle will apply to high manuring. Hay that yields from three to four tons to the acre is not as good as that which yields half that amount. The same results are obtained with potatoes, beets, squash and many other crops. It may be, however, necessary on some lands to cultivate and manure to get a medium crop. The question is asked why manure highly if the crop is not as good? We reply, it is considered more profitable to raise twice the amount of hay by extra manure, and the hay is often quite as saleable in the market, also the other crops.

We do not undervalue good culture and free use of manure, for the success of the farmer depends upon it. We think, however, much discretion is necessary in using it to the best advantage for different crops, particularly for late keeping winter apples. Some farmers choose to manure, will get larger apples and sell early; this is all very well, as good apples are wanted in our markets, and large apples will usually sell better than smaller ones. There are others who cultivate with particular reference to growing large apples. They manure highly, keep the land under constant cultivation, prune closely, and if necessary pick off part of the apples when small, then the fruit will usually grow large and will adorn the table at the fair. But keep those apples until the spring if they will keep so long, and we think they will be found to be not as good as apples grown on pasture land. The noticeable difference in Baldwins goes to show that their quality has been reduced or improved by grafting into poor or good stocks May not then the good qualities of the Baldwin be imparted by cross grafting into other varieties of apples, such as the Red Astrachan, the Gravenstein, Hubbardston-Nonsuch, and others. We think it a subject worthy of the attention of our apple growers, and hope it will be tested by experiments.

Digitized by Google

Swine have in some instances been kept in orchards with good effect, sheep like to roam over just such land as we have described. If such could be set with trees, where there is a rich, deep soil, and cultivated around the trees for a few years, and then stocked with sheep, we have no doubt it would be a profitable investment, if the sheep can be protected from dogs. Inform our legislators of the result, and we should hope they would change the laws and protect the sheep instead of the dogs. In view of what has been said may we not suppose that there is much land in the County of little value, that may with little or no cultivation, produce large quantities of the best quality of late keeping winter apples. Our object in writing this essay has been to increase the production of late keeping winter apples. Our long life of more than four score years has been spent on an apple growing farm, and in an apple growing region, and our opinion now is, that the apple crop has been as a rule, quite as profitable as other crops, notwithstanding all the obstacles we have had to contend with. The caterpillar and the canker worm prevailed in our early days. We well remember in days of boyhood, carrying the kettle of tar in one hand and brush in the other, to tar our father's trees to protect them from the ravages of the canker worm. That pest has prevailed more or less over the orchards from that day to this, and those persons who have protected their orchards from those insects, have been well remunerated for their trouble.

More recently the borer has made much trouble in some young orchards, and now the apple worm has increased to such extent as to almost destroy the whole crop, and the worst of it is there seems to be no remedy. We have taken considerable pains within the last two years to get what information we could in regard to their habits. They appear in the early part of the season, enter the apple, perform their work of destruction, then leave the apple. Others follow on in course through the season. We have some new cases the present year, as late as October, where we have cut the apple and found a worm

Digitized by Google

just eating into it. Thus new recruits have been coming during the season, and on gathering our apples but few perfect ones were among them. We have examined large numbers of apples by cutting them open immediately after they drop from the tree, and find the much greater proportion of them without worms. They had spoiled the apple and left it. That being the case, picking up the apples and using them destroys but a small proportion of the worms. Where the worms go after leaving the apple we know not, but shall leave the subject to others who know more of their habits.

FARMERS' INSTITUTES, 1881-2.

The 11th Institute was held at Peabody, December 14, 1881.

Opened in the forenoon by a paper read by O. S. Butler of Georgetown, on the question of Farmers' Institutes, their objects and the methods of conducting them; followed by a discussion.

Voted, That Mr. Butler be a committee to collect facts regarding Ensilage, and report at a future meeting.

Voted, That a committee to investigate the subject of eradicating *purslane* from the soil and to report at a future meeting, consist of Messrs. J. J. H. Gregory, Aaron Low, W. F. Batchelder and E. G. Nason.

Also a committee on eradicating *witch grass*. Messrs. Ansel W. Putnam, James P. King, J. J. H. Gregory and Asa T. Newhall.

The afternoon discussion opened with an address by J. J. H. Gregory, on the cultivation of *potatoes*.

Mr. Butler offered a resolution in favor of a State Experimental Station, and it was voted to petition the Legislature to establish one.

The 12th Institute was held at Ipswich, January 11, 1882.

In the forenoon, Ansel W. Putnam of Danvers, opened the discussion on *Ploughs* and *Ploughing*.

Digitized by Google

In the afternoon, J. J. H. Gregory introduced the subject of the improvement of wood and pasture lands, which was followed by a discussion.

The 13th Institute was held at North Andover, Feb. 1, 1882.

In the forenoon it being very stormy no exercises were held.

Mr. Asa T. Newhall of Lynn opened in the afternoon with a paper on the management of *farm stock*, followed by a discussion.

The 14th institute was held at Amesbury, Feb. 23, 1882.

Subject in the forenoon, the culture of the *apple*, with a paper by Thos. C. Thurlow of West Newbury.

Afternoon subject, Silos and Ensilage, with a report by O. S. Butler, followed by discussion.

The 15th Institute was held at Topsfield, March 9, 1882.

In the forenoon the discussion was commenced by the reading of a paper by John B. Moore, of Concord, on the *grass* and *hay* crop.

In the afternoon A. A. Smith of Coleraine, read a paper on *sheep husbandry*, which was followed by a discussion.

The 16th Institute was held at Rowley, March 23, 1882.

An essay was read by Francis H. Appleton, and discussion followed on the *corn* and other *grain crops*.

Mr. Asa T. Newhall read his paper on the management of *farm stock* in the afternoon, which was followed by a discussion. The meeting adjourned, this being the last to be held for the season.

CHAS. P. PRESTON, Sec'y.

COMMEMORATIVE.

Resolutions of respect to Gen. William Sutton and others, past trustees and members.

The following Preamble and Resolutions were adopted at the annual meeting of the Essex Agricultural Society, September 26th, at Haverhill :

Digitized by Google

WHEREAS, it having pleased our Heavenly Father in his Divine Providence to remove from our midst by death within the last year an unusual number of our oldest members, who have served the society long and faithfully in various capacities, having used their influence and strength of character in behalf of our Society and in the interest of the promotion of agriculture,—

Gen. William Sutton of Peabody, a former Treasurer and President.

E. G. Kelly of Newburyport, as Orator and Trustee.

E. R. Mudge of Swampscott, Trustee.

Calvin Rogers of West Newbury, Trustee.

Franklin Alley of Marblehead, Trustee.

Horace Ware of Salem; Augustus Story of Salem; Frederick Robinson of Marblehead; Charles Ingalls of Methuen; and James T. Fields of Manchester. Therefore

Resolved, That while we humbly submit to this severe dispensation of Divine Will we sincerely mourn their loss to us. They were our associates and co-workers, whom we loved to meet and whom we shall ever hold in kind remembrance.

Resolved, That in feeling the great loss to us as esteemed members of our society, we also heartily sympathize with the families of our departed brethren in their greater loss and bereavement.

Resolved, That the Secretary be requested to furnish copies of these resolutions to the several families of our departed friends.

Gen. Sutton was Treasurer of the Society for twenty-four years, during which time the permanent invested funds and other property of the society accumulated to some $25,000. He performed the responsible duties of that position with perfect accuracy for that long period without any compensation other than the satisfaction of rendering valuable service to the Society that he loved. In 1865 he was elected without opposition to the Presidency, which office he held for nine years, when he declined further election.

Digitized by Google

These many years of faithful services to the Society, with his genial and generous nature, so endeared him to the members of the Society that it was with the utmost regret they consented to release him from further service as their presiding officer. He promised to continue to meet with them and work with them, which he did, as long as his health would permit. Gen'l Sutton loved the farm and all of its belongings. He was probably the largest land holder in the County, owning more than 1200 acres in fine farms, the management of which he personally directed ; this he considered a source of recreation rather than a business. For forty years he was President of the First National Bank of Salem, to which he gave daily attention. He was largely interested in manufacturing. Early in life he was actively interested in the Militia of the State. He has served several times in each branch of the Legislature and such was his popularity among the people, that he was often selected on a doubtful issue as a candidate sure to succeed. He served many years as Chief of the Fire Department of Salem, and many will remember that at a time of general alarm on account of numerous incendiary fires, Gen'l Sutton's constant vigilance did much to restore the confidence of the people. He was elected by this Society for several terms, a member of the State Board of Agriculture. He was a popular member of the fraternity of Masons in the higher degrees. His name is borne by various organizations in the County and State. He was blessed with wealth and was generous and free in its use. Indeed his has been an eventful, busy life, beloved by all who knew him. Such is the man whose loss we mourn.

Dr. E. G. Kelly of Newburyport was deeply interested in Forestry and Pear Culture ; he served many years as Trustee of this Society, and on one occasion delivered the annual address, replete with witticisms, and valuable suggestions. His presence at our annual gatherings and trustee meetings, will long be remembered by his associates as adding zest and life to the occasions, and his absence will be long felt.

Horace Ware of Salem was one of the pioneers of the Socie-

Digitized by Google

ty, and ranked among our most successful Market Gardeners and milk producers. He was a careful and wise counsellor in the progress of the Society, and a highly esteemed and respected member.

E. R. Mudge of Swampscott became a member of this Society in 1848, and was elected a Trustee the same year. He owned a fine farm in Swampscott. His attention, was however, mostly given to his mercantile and banking business. He served one term in the Senate with much credit, having keen insight into the business and relations of legislation. He accumulated a large fortune, and erected at his own expense in Lynn, a Memorial Church, which is considered one of the most beautiful in the country. This church was completed just in time to receive his remains, at his death.

Frederick Robinson of Marblehead was an early member of this Society, and the later years of his life were spent upon his farm which he loved. His has been an eventful life, his strong intellect and persistent character were felt in the political movements in the State many years ago ; he was a prominent member of the legislature for several sessions, afterwards Warden of the State Prison, and much respected as such. He made the banking system of the country a study for many years. He was a man of marked ability, and commanded the respect of all who knew him.

Augustus Story of Salem, although not a farmer, became a member of the Society from a love of the cause of Agriculture, and the respect he had for the Society itself. In honoring it he felt that he also honored himself.

Calvin Rogers of West Newbury was a highly respected farmer and served several years as Trustee of this Society. He has often been appointed on important committees, and his judgment was reliable.

Charles Ingalls of Methuen, although engaged in manufacturing, was thoroughly interested in the doings of this Society. He was constant in his attendance at every meeting, and took an active part in the discussions that came up. He was a genial and pleasant member to associate with, and few will be more missed than he.

Digitized by Google

Franklin Alley of Marblehead was one of the best market vegetable growers in the County. He followed the Boston market for many years, and made a point of sending one or more loads of the choicest vegetables to Boston every day during the season. He was a kind, genial neighbor, an excellent farmer, an enthusiastic member of this Society, and a Trustee of it for several years. He leaves three sons, all farmers and members of this Society, having brought them up to respect a society whose aim is to elevate his calling.

REPORTS OF COMMITTEES.

The committee to award premiums on Reports of Committees received four papers, presented in due form, and after reading them carefully and considering their merits, decided to award the three premiums intrusted to them as follows:—To O. S. Butler of Georgetown, for his Report on Silos and Ensilage, the first premium of $10. To Asa T. Newhall of Lynn, for his Report upon Root Crops, the second premium of $8. And to David W. Low of Gloucester, for his Report on Vegetables, the third premium of $6.

Mr. Butler's report on Silos and Ensilage embodies the results of a very exhaustive study of this important subject, and must be read by farmers with great interest. The extensive correspondence which the author has had with those who have built and used silos, gives great weight to his conclusions and inferences. Indeed the value of his paper is mainly in the "results" which are given by him as being justified and sustained by the replies to his enquiries upon the subject. Mr. Newhall's report on Root Crops, contains valuable information upon this subject, and is a record of practical observations which cannot fail to interest the reader. Mr. Low's report on Vegetables, is a curious and highly interesting historical review of the vegetable department in the Society's annual

Digitized by Google

exhibitions from an early day. It will very likely surprise many to learn how humble was the position of the Vegetable in the early shows, and how recently in comparison has it come to attract its proper share of attention. As a record of the growth of this department, Mr. Low's paper is well worth perpetuating in the society's proceedings.

The committee would have been pleased to receive a larger number of reports for their consideration, as these papers are almost always of value for publication, even when not awarded a premium, and they consider it good policy for the society to continue to offer liberal sums to stimulate practical cultivators to give the public the benefit of their experience.

G. L. Streeter, Salem; D. E. Safford, Hamilton; Charles P. Preston, Danvers; N. M. Hawkes, Lynn.—*Committee.*

Digitized by Google

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG. SOCIETY. Cr.

1881.			1881.			
October.	To balance of previous account,	$19 00	Sept.	By Amount of Premiums and Gratuities awarded by Trustees,		$1854 00
	To Bank Dividends in October,	459 60		By Bills paid on account of Annual Exhibition,	165 44	
Dec. 28.	To Cash received of Committee in charge of annual exhibition,	257 96		Bills paid on account of Treadwell Farm,	4 63	
	To State Bounty received from State Treasurer,	600 00		Bills paid for Printing and Advertising,	209 82	
	To State Tax on Bank Stocks refunded,	199 39		Sundry small bills,	1 65	
	To rent of Treadwell Farm received,	400 00		Rent paid Salem Athenæum,	25 00	
	To Amount received for new members,	138 00		Secretary's account,	252 38	
1832.				Treasurer's account,	52 50	
April.	To Bank Dividends due in April,	442 10		Interest on Temporary Loan,	24 45	
	To Amount of unclaimed premiums,	94 25		Balance to new account,	20 43	
		$2610 30				$2610 30

Digitized by Google

FUNDS BELONGING TO THE SOCIETY, OCTOBER, 1882.

	Cost.	Market Value.
10 shares in Nat. Hide and Leather Bank, Boston,	$1101 87	1150 00
3 shares in Nat. Revere Bank, Boston,	377 62	360 00
18 shares in First National Bank, Salem,	1914 66	2160 00
18 shares in Salem National Bank, Salem,	2000 00	2160 00
42 shares in Asiatic National Bank, Salem,	1281 25	1890 00
12 shares in Mercantile National Bank, Salem,	1226 50	1440 00
23 shares in Merchant's National Bank, Salem,	1189 50	1495 00
5 shares in First National Bank, Danvers,	375 00	500 00
8 shares in National Exchange Bank, Salem,	800 00	960 00
16 shares in Warren National Bank, Peabody,	1595 40	2400 00
15 Shares in South Danvers Nat. Bank, Peabody.	1471 25	2175 00
Cash on hand,	20 43	
	$13,353 48	16,690 00
Funds reported last year,	13,352 05	
Gain,	$1 43	

GILBERT L. STREETER, Treasurer.

Nov. 9, 1882.

SALEM, Dec. 1, 1882.

The undersigned has examined the foregoing account and finds the same to be correctly cast and properly vouched, and I have also examined the securities and find them to be as stated.

JOS. H. PHIPPEN, Auditor.

Digitized by Google

OFFICERS OF THE SOCIETY.

FOR 1882-83.

PRESIDENT.

BENJAMIN P. WARE, of Marblehead.

VICE-PRESIDENTS.

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE.

JOSEPH HOW, of Methuen.

SECRETARY.

CHARLES P. PRESTON, of Danvers.

TREASURER.

GILBERT L. STREETER, of Salem.

TRUSTEES.

Reuben Alley, Marblehead.
Francis H. Appleton, Peabody.
Oliver S. Butler, Georgetown.
Thos. K. Bartlett, Newb'ypt.
Charles C. Blunt, Andover.
William A. Brown, Hamilton.
Zachariah Cole, Wenham.
Geo. W. Chadwick, Boxford.
O. Loring Carleton, Middleton.
E. G. Dole, Salisbury.

Digitized by Google

Andrew Dodge, Beverly.
Alden C. Estes, Rockport.
George W. Gage, Methuen.
Charles H. Gould, Danvers,
John J. Gould, Ipswich.
George L. Hawkes, Lynnfield.
Samuel Hawkes, Saugus.
J. Henry Hill, Amesbury.
Edw'd Harrington, Groveland.
Wm. H. Haskell, Merrimac.
Thomas Hale, Rowley.
Jas. T. Johnson, No. Andover.
N. Tenney Kimball, Bradford.
Aaron Low, Essex.
Nath'l Little, Jr., Newbury.
Alfred L. Moore, W. Newbury.
John P. Palmer, Swampscott.
John Price, Manchester.
Chas. W. Shattuck, Lawrence.
John L. Shorey, Lynn.
Richard Webster, Haverhill.
Horace C. Ware, Salem.
Geo. M. Wonson, Gloucester.
Isaac M. Woodbury, Topsfield.

———oo———

NEW MEMBERS—1882.

George F. Averill, Topsfield.
John Barker, No. Andover.
Albert S. Brown, Ipswich.
Charles R. Drew, Groveland.
B. F. Eaton, Haverhill.
E. A. Emerson, Haverhill.
C. H. Fellows, Haverhill.
J. R. Gordon, West Newbury.
Samuel B. George, Groveland.
Francis Gulliver, Andover.
Patrick Goodwin, Lawrence.
Francis J. Goodwin, Lawrence.
Edwin V. Gage, Bradford.
T. P. Hale, Rowley.
Thos. P. Harriman, Groveland.
A. C. Hill, Merrimac.
Albert C. Heath, Haverhill.
Hanscom, Haverhill.
Joseph Ilsley, Newbury.
Hannah E. Kittredge, N. Andover.
M. O. Luce, Haverhill.
Henry Merrill, West Newbury.
Philip H. Martin, Groveland.
James H. Nason, Boxford.
H. F. Nason, West Newbury.
A. D. Ordway, Newburyport.
Baxter P. Pike, Topsfield.
Geo. G. Pierce, W. Newbury.
Frank Perkins, Newbury.
F. W. Poore, Haverhill.
Loring B. Rea, No. Andover.
C. N. Rhodes, Haverhill.
Henry H. Spofford, Groveland.
Edward M. Stacey, Groveland.
Elmer P. Sargent, Merrimac.
M. Perry Sargent, Merrimac.
Mrs. S. A. Stewart, Middleton.
W. W. Sprague, Haverhill.
Frank H. Towne, Topsfield.
George H. Tenney, Groveland.
J. Harrison Tenney, Rowley.

Digitized by Google

LIST OF PREMIUMS.

FAT CATTLE.

C. W. Adams, Newbury, 1st premium,	12 00
Joseph Newell, West Newbury, 2d premium,	10 00
James H. Reynolds, No. Andover, 3d premium,	6 00

BULLS.

Wm. A. Russell, Lawrence, Holstein with stock, 1st premium,	15 00
C. S. Bradley, West Newbury, Short Horn, 1st premium,	10 00
Dudley A. Massey, Danvers, Ayrshire, 1st premium,	10 00
Thomas Sanders, Haverhill, Jersey, 1st premium,	10 00
Henry C. Nevins, Methuen, Devon under two years, 1st premium,	6 00
Wm. A. Russell, Lawrence, Holstein, do., do., do.,	6 00
Thomas Sanders, Haverhill, Jersey, do. do., do.,	6 00
George W. Russell, Lawrence, Jersey, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein, "Ernest," do. do., do.,	4 00
Thomas Sanders, Haverhill, Jersey, "Black Birch," do. do. do.,	4 00

MILCH COWS.

Wm. A. Russell, Lawrence, special premium for milch cow,	25 00
M. O. Luce, Haverhill, do., 1st premium,	12 00
W. R. Whittier, Haverhill, do., 2d. premium,	6 00
Harry H. Hale, Bradford, Jersey cow, 1st premium,	12 00
Thomas Sanders, Haverhill, Jersey cow, 2d premium,	6 00
C. S. Bradley, West Newbury, Short Horn cow, 1st premium,	12 00
C. S. Bradley, West Newbury, Short Horn cow, 2d premium,	6 00
Wm. A. Russell, Lawrence, Holstein cow, 1st premium,	12 00
William A. Russell, Lawrence, 2d premium,	6 00
Nathan Priest, Haverhill, Native, gratuity,	5 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, 1st premium,	18 00
Thomas Sanders, Haverhill, 2d premium,	12 00

HEIFERS—FIRST CLASS.

Wm. A. Russell, Lawrence, Heifers under 4 years, in milk, 1st. premium,	12 00
Wm. A. Russell, Lawrence, do., 2d premium,	6 00

Digitized by Google

William A. Russell, Lawrence, heifers over 1 year old, not in milk, 1st premium,	6 00
Wm. A. Russell, Lawrence, do., 2d premium,	4 00
Wm. A. Russell, Lawrence, heifer calves, 1st. premium,	5 00
Wm. A. Russell. Lawrence, do., 2d premium,	3 00
C. S. Bradley, West Newbury, heifers over 1 year old, not in milk, Short Horns, 1st premium,	6 00
C. S. Bradley, West Newbury, do., 2d premium,	4 00
C. S. Bradley, West Newbury, calves, 1st premium,	5 00
C. S. Bradley, West Newbury, calves, 2d premium,	3 00
H. C. Nevins, Methuen, heifers in milk, Devon, 1st premium,	12 00
H. C. Nevins, Methuen, do., 2d premium,	6 00
H. C. Nevins, Methuen, under 4 years not in milk, 1st premium,	6 00
H. C. Nevins, Methuen, do., 2d premium,	4 00
Harriet Reynolds, Boxford, Jersey heifer under 4 years, 1st premium,	6 00
Thomas Sanders, Haverhill, do. 3 years old in milk, 2d premium,	6 00
Thomas Sanders, Haverhill, do. over 1 year old not in milk, 2d premium,	4 00
Thomas Sanders, Haverhill, Jersey calf, first premium,	5 00
Thomas Sanders, Haverhill, do., 2d premium,	3 00
J. W. Bailey, Bradford, Jersey heifer 2 years old, not in milk, 1st premium,	6 00

HEIFERS, SECOND CLASS.

Chas. W. Adams, Newbury, yearling heifer, 1st premium,	6 00
S. & N. Longfellow, Groveland, do., 2d premium,	4 00
T. O. Wardwell, North Andover, calves, 1st premium,	5 00
B. H. Farnum, North Andover, calves, 2d premium,	3 00

WORKING OXEN AND STEERS.

Albert Berry, North Andover, working oxen, 1st premium,	12 00
Hannah E. Kittredge, do., do., 2d premium,	10 00
J. L. Farnum, do., do., 3d premium,	8 00
B. H. Farnum, do., working steers, 1st premium,	10 00
Wm. and Alfred Little, Newbury, do., 2d premium,	6 00

TOWN TEAMS.

The North Andover horse team, 12 pairs, 1st premium,	25 00
The North Andover Ox team, 16 pairs, 1st premium,	25 00
The Bradford Ox team, 10 pairs, 2d premium,	15 00

Digitized by Google

STEERS.

Byron K. Farnum, No. Andover, 3 years old steers, 1st premium,	8 00
Henry Berry, Boxford, do., 2d premium,	6 00
S. & N. Longfellow, Groveland, 2 years old steers, 1st premium,	6 00
J. R. Farnum, No. Andover, do., 2d premium,	5 00
Thomas Sanders, Haverhill, yearling steers, 1st premium,	5 00
Richard Bray, Newbury, do., 2d premium,	4 00

STALLIONS.

Harry H. Hale, Bradford, stallion with stock, special premium,	25 00
Henry C. Nevins, Methuen, do., 2d premium,	8 00
J. R. Prescott, Haverhill, do., 3d premium,	6 00
Henry C. Nevins, Methuen, stallion 3 years old, 1st premium,	8 00
John O. Goodwin, North Andover, do., 2d premium,	5 00

BROOD MARES.

Thomas Sanders, Haverhill, brood mare, 1st premium,	12 00
Rufus Goodwin, Haverhill, do., 2d premium,	8 00
J. J. Downing, North Andover, do., 3d premium,	6 00

FAMILY HORSES.

O. S. Butler, Georgetown, family horse, 1st premium,	12 00
Peter Holt, Jr., North Andover, do., 2d premium,	8 00
Alfred C. Hill, Saugus, do., 3d premium,	6 00

FARM AND DRAFT HORSES.

W. H. Butters, Methuen, 1st premium,	12 00
Jeremiah Cashman, Newburyport, 2d premium,	8 00
R. S. Bray, Newbury, 3d premium,	6 00
Jonas Rollins, Danvers, 4th premium,	4 00
J. A. Ilsley, Georgetown, gratuity,	3 00
Peter Holt, Jr., North Andover, gratuity,	2 00

PAIRS OF DRAFT HORSES.

Edward P. Perley, Danvers, 1st premium,	12 00
Thomas Sanders, Haverhill, 2d premium,	8 00
A. P. Fuller, North Andover, 3d premium,	4 00

COLTS—FIRST CLASS.

B. G. Gutterson, Methuen, 4 years old colt, 1st premium,	10 00
Joseph Newell, West Newbury, 4 years old colt, 2d premium,	6 00
Albert C. Heath, Haverhill, 3 years old colt, 1st premium,	8 00
J. G. Hunkins, Haverhill, do., 2d premium,	5 00

Digitized by Google

COLTS—SECOND CLASS.

H. M. Coburn, Methuen, 2 years old colt, 1st premium,	6 00
T. S. Ruddock, West Newbury, do., 2d premium,	4 00
Peter Holt, Jr., North Andover, yearling colt, 1st premium,	6 00
M. O. Luce, Haverhill, do., 2d premium,	4 00

SWINE—FIRST CLASS.

Thomas Sanders, Haverhill, large Yorkshire boar, 1st premium,	10 00
George H. Plummer, Newbury, do., 2d premium,	6 00
Jeremiah Cashman, Newburyport, breeding sow, 1st premium,	10 00
Jacob L. Farnham, North Andover, do., 2d premium,	6 00
Danvers Hospital Farm, weaned pigs, 1st premium,	10 00
Thomas Sanders, Haverhill, do., 2d premium,	6 00

SWINE—SECOND CLASS.

Alfred M. Trask, Danvers, small Yorkshire boar, 1st premium,	10 00
C. H. Poor, Bradford, do., 2d premium,	6 00
Alfred M. Trask, Danvers, do., breeding sow, 1st premium	,10 00
T. O. Wardwell, No. Andover, do., do., 2d premium,	6 00
Alfred M. Trask, Danvers, do., four weaned pigs, 1st premium,	10 00
Alfred M. Trask, Danvers, five, do. do., 2d premium,	6 00

SHEEP.

Thomas Sanders, Haverhill, flock thoroughbred Atwood Merinos, 1st premium,	10 00
Joseph Newell, West Newbury, six grade lambs, 1st premium,	4 00
Joseph Newell, West Newbury, buck, first premium,	8 00

PLOUGHING—DOUBLE OX TEAMS.

Bray & Little, Newbury, 1st premium,	12 00
B. H. Farnham, No. Andover, 2d premium,	10 00

PLOUGHING—SINGLE OX TEAMS.

Charles J. Peabody, Topsfield, 2d premium,	7 00

PLOUGHING—HORSES, COMMON PLOUGH.

R. S. Bray, Newbury, 1st premium,	12 00
T. O. Wardwell, North Andover, 2d premium,	10 00
Paul T. Winkley, Jr., Newburyport, 3d premium,	8 00
Patrick Kiely, Hamilton, 4th premium,	6 00
Charles N. Maguire, and M. H. Poor, West Newbury, 5th premium,	4 00

Digitized by Google

PLOUCHING WITH FOUR HORSES.

H. F. Nason, West Newbury, landside Oliver Chilled Plow, 1st premium,	10 00
W. A. Russell, Lawrence, Swivel Matchless No. 8, 1st premium,	10 00

SULKY PLOUGH.

Frank Perkins, Newbury, Cassady Plough, 1st premium,	10 00
George G. Creamer, Hamilton, Wiard Plough, gratuity,	5 00

SWIVEL PLOUGH.

Town of No. Andover, and B. K. Farnham, ox team, 1st prem.,	12 00
Charles Haseltine, Bradford, do., do., 2d premium,	10 00
Edward P. Perley, Danvers, horse team, 1st premium,	10 00
Jonas Rollins, Danvers, do., do., 2d premium,	6 00

GRAIN CROPS.

Danvers Lunatic Hospital, Rye Crop, 1st premium,	10 00
W. W. Perkins, Newbury, Barley, first premium,	10 00
W. W. Perkins, Newbury, Grass crop, 1st premium,	10 00
Nathaniel Little, Jr., Newbury, Wheat crop, 1st premium,	10 00

ROOT CROPS.

J. J. H. Gregory, Marblehead, onion crop, 1st premium,	10 00
J. W. Blodgett, Saugus, potato crop, 1st premium,	10 00
J. W. Blodgett, Saugus, squash crop, 1st premium,	10 00
Aaron Knowlton, Essex, Mangold crop, first premium,	10 00
O. S. Butler, Georgetown, Report on Silos and Ensilage, 1st premium,	10 00
Asa T. Newhall, Lynn, Report on Root crops, 2d premium,	8 00
David W. Low, Gloucester, Report on Vegetables, 3d premium,	6 00
Awarded by Committee on Poultry,	47 00
" " " " Agricultural Implements,	28 00
" " " " Carriages,	35 00
" " " " Dairy,	53 00
" " " " Bread, Honey, etc.,	24 00
" " " " Fruit,	256 50
" " " " Flowers,	60 50
" " " " Vegetables,	170 50
" " " " Counterpanes, &c.,	36 00
" " " " Articles manufact'd from Leather,	29 00
" " " " Manufactures and merchandise,	25 00
" " " " Fancy Work, &c.,	48 25
" " " " Children's Work,	11 25
	1912 00

Digitized by Google

RECAPITULATION.

FARMS.

Amount awarded to Ploughing,		$142 00

FARM STOCK.

Amount awarded to Fat Cattle,	28 00	
" " " Bulls,	77 00	
" " " Milch Cows,	102 00	
" " " Herd of Milch Cows,	30 00	
" " " Heifers,	130 00	
" " " Working Oxen,	46 00	
" " " Town Teams,	65 00	
" " " Steers,	34 00	
" " " Horses,	163 00	
" " " Colts,	49 00	
" " " Swine,	96 00	
" " " Sheep,	22 00	
" " " Poultry,	47 00	
		$1031 00

FARM PRODUCTS.

Amount awarded to Grain Crops,	40 00	
" " " Root Crops,	40 00	
" " " Dairy,	53 00	
" " " Bread, Honey, &c.,	24 00	
" " " Fruits,	256 50	
" " " Flowers,	60 50	
" " " Vegetables,	170 50	
		$644 50
All other objects,		236 50
Total,		1912 00

Digitized by Google

CONSTITUTION

OF THE

ESSEX AGRICULTURAL SOCIETY.

ARTICLE 1. There shall be a President, four Vice-Presidents, a Secretary and a Treasurer, who shall be Trustees, *ex officio*. The President, Vice Presidents and Secretary shall be elected at the annual meeting by ballot and the Treasurer by the Trustees, annually, at their meeting in November. In addition to these, one Trustee shall be elected annually for each town in the County, and the Trustee for each town shall be elected by the members of the Society in said town, at a meeting called for that purpose, in accordance with notice issued by the Secretary, and shall continue in office until another is elected in his stead; and such election shall be final, and shall constitute the Trustee so elected a member of the Board of Trustees of the Society; and the result of the election in each town shall be communicated as early as possible to the Secretary.

ART. 2. There shall be an Annual Meeting of the Society, at such time as the Trustees shall determine; at which all officers shall be elected. Twenty members at least shall be necessary to constitute a quorum for the transaction of business.

ART. 3. If at any meeting of the Society, or the Trustees, the President and Vice Presidents shall be absent, the members present may appoint one from among them to preside at such meeting.

Digitized by Google

ART. 4. The President, or, in case of his absence, either of the Vice Presidents, with the advice of the Trustees, may call a special meeting of the Society; or whenever a written application, with the reasons assigned therefor, shall be made by any twelve members of the Society, to the President and Trustees, they shall call such meeting.

ART. 5. The meetings of the Trustees shall be held at such time and place as they shall from time to time agree upon; seven of whom with the presiding officer shall make a quorum.

ART. 6. The Trustees shall regulate all the concerns of the Society, during the intervals of its meetings; propose such objects of improvement to the attention of the public, publish such communications, and offer premiums in such form and value as they think proper, (provided the premiums offered do not exceed the funds of the Society); and shall lay before the Society, at each of its meetings, a statement of their proceedings and of the communications made to them.

ART. 7. The Secretary shall take minutes of all the votes and proceedings of the Society and of the Trustees, and enter them in separate books; and shall record all such communications as the Trustees shall direct He shall write and answer all letters relating to the business of the Society.

ART. 8. The Treasurer shall receive all moneys due or payable to the Society, and all donations that may be made to it; for which he shall give duplicate receipts, one of which shall be lodged with the Secretary, who shall make a fair record thereof. The Treasurer shall from time to time pay out such moneys as he shall have orders for from the Trustees; and shall annually, and whenever thereto required, render a fair account of all his receipts and payments to the Society or a committee thereof. He shall give bonds for the faithful discharge of his duty, in such sum as the Trustees shall direct, and with such sureties.

Digitized by Google

ART. 9. A committee shall be appointed annually by the Trustees, to audit the Treasurer's accounts, who shall report to the Society; and the same being accepted shall be entered by the Secretary in his books.

ART. 10. In case of the death, resignation, incapacity, or removal out of the County, of the Secretary or of the Treasurer, the Trustees shall take charge of the official books, papers, and other effects, belonging to the office that may be vacated, and give receipts for the same; which books, papers, etc.. they may deliver to some person whom they may appoint to fill the office until the next meeting of the Society, at which time there shall be a new choice.

ART. 11. Any citizen of the County may become a member of the Society, by paying the sum of THREE DOLLARS to increase the permanent fund of the institution.

ART. 12. A committee shall be raised, from time to time, to solicit and receive subscriptions for raising a fund for encouraging the noblest of pursuits, the Agriculture of our country; the same to be sacredly appropriated to that purpose.

ART. 13. All ordained ministers of the Gospel who reside within the County, shall be admitted honorary members of the Society.

ART. 14. In addition to the usual number of Trustees annually elected, the past Presidents of the Society shall be honorary members of the Board of Trustees.

ART. 15. The foregoing constitution may be amended by a proposition of the amendment in writing by a member at a regular meeting; the same to lie over for action at the next annual meeting of the Society.

Digitized by Google

CONTENTS.

	Page.
Address of Francis H. Appleton,	5
The Exhibition,	29
Report on Fat Cattle,	30
" " Bulls,	31
" " Milch Cows,	32
" " Herds of Milch Cows,	36
" " Heifers,	39
" " Working Oxen and Steers,	42
" " Town Teams,	43
" " Steers,	43
" " Stallions	44
" " Brood Mares,	45
" " Family Horses,	45
" " Farm and Draft Horses,	46
" " Pairs of Draft Horses.	48
" " Colts,	50
" " Swine,	51
" " Sheep,	52
" " Poultry,	55
" " Ploughing,	57
" " Agricultural Implements,	61
" " Carriages,	61
" " Dairy,	62
" " Bread and Honey,	65
" " Pears,	70
" " Apples,	71
" " Peaches, Grapes and Assorted fruits,	73
" " Flowers,	73
" " Vegetables,	75
Report on Counterpanes, Carpetings and Rugs,	89
" " Articles Manufactured from Leather,	90
" " Manufactures and General Merchandise,	90
" " Fancy Work and Works of Art,	91
" " Children's Work,	94
" " Root Crops,	95
" " Grain Crops,	107

Digitized by Google

Report on Farms, ... 109
" " Silos and Ensilage, ... 110
" " Apples, ... 114
" " Treadwell Farm, ... 116
Essay—Apples, ... 118
Farmers' Institutes, ... 127
Commemorative, ... 128
Report of Committee on Essays and Reports, ... 132
Treasurer's Report, ... 134
Officer and New Members, ... 136
List of Premiums, ... 138
Recapitulation, ... 143
Constitution, ... 144

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

This book should be returned to the Library on or before the last date stamped below.

A fine of five cents a day is incurred by retaining it beyond the specified time.

Please return promptly.

Digitized by Google

Digitized by Google